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A Weekly Newspaper Devoted to the Industrial, Financial, Railroad,
Mining, Contracting, Engineering, Building, and General
Business Interests of the South and Southwest

Vol. 60
No. 4

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In This Issue:

Vast Financial, Railroad and Industrial Activities
Struggling for Strategic Position in Eastern
Kentucky and Southwestern Virginia in Real-
ization of Developmental Predictions of a
Quarter of a Century Ago.

Additional Data on the Iron Ore Resources of the
South in the Discussion Continued from Last
Week as to the Holdings of the United States
Steel Corporation.

Alphabetical Index, Page 146.
Classified Index, Pages 140 to 145.
Classified Opportunities, Pages 94, 95 and 96.

BALTIMORE, AUGUST 3, 1911

B. t. u.

THE MEASURE OF HEAT

The term British thermal unit (abbreviated B. t. u.), often confronts the user of coal. As a yard stick is a measure of length, a B. t. u. is a measure of heat. The total amount of heat contained in a pound of fuel, all of which is liberated by complete combustion, is expressed in B. t. u's. A single heat unit is the amount of heat required to raise the temperature of one pound of water one degree Fahrenheit at atmospheric temperature. Heat units make steam and steam makes power.

Below are tabulated, from some of the highest scientific authorities, the heat values of the commoner combustibles contained in coal:

SUBSTANCE	B. t. u. Per Lb.	
Acetylene Gas	21,465	Included in the "Volatile Matter" of proximate analysis.
Marsh Gas	23,515	
Olefiant Gas	21,345	
Hydrogen Gas	62,035	
Carbon	14,450	"Fixed Carbon" of proximate analysis.

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Clinchfield coal is rich in Hydrogen and the Hydro-Carbon gases shown above. These "VOLATILE" gases burn above the fuel bed with rapidity and great intensity in close proximity to the boiler surfaces. Quick liberation of heat units means quick generation of steam; hence the economy in using Clinchfield coal which maintains boilers at high capacity easily and continuously, thus delivering more than the rated horsepower. Clinchfield coal ranges from 14,000 to 14,700 heat units per pound, because it contains small percentages of oxygen, moisture and ash, which are valueless, and large percentages of the combustibles highest in heat value.

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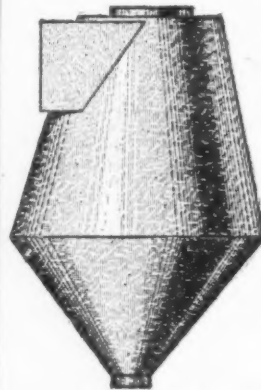
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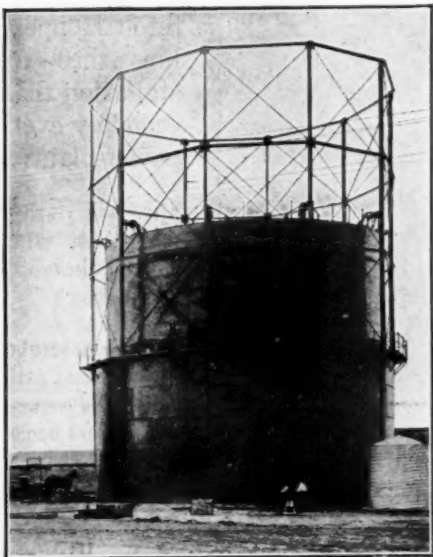
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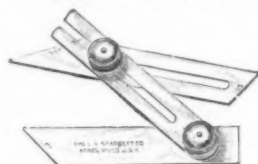
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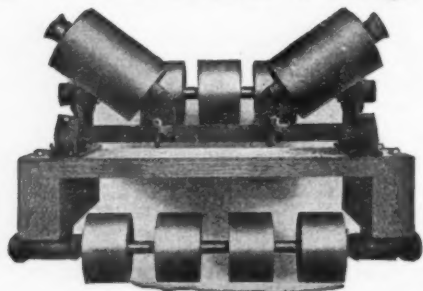
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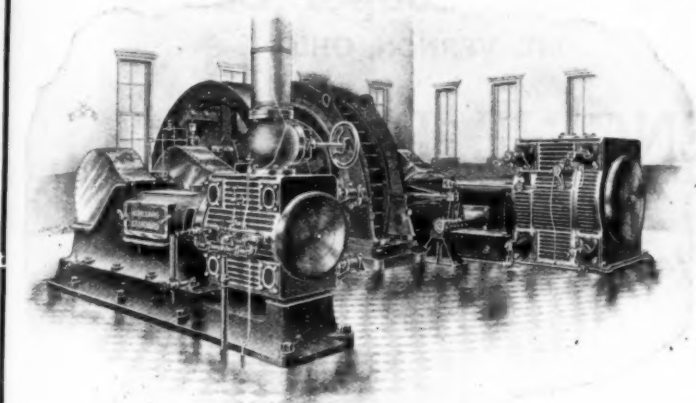
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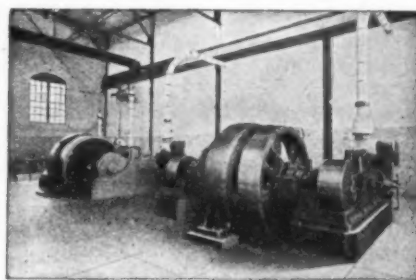
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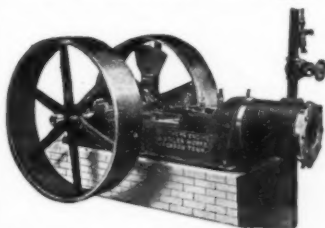
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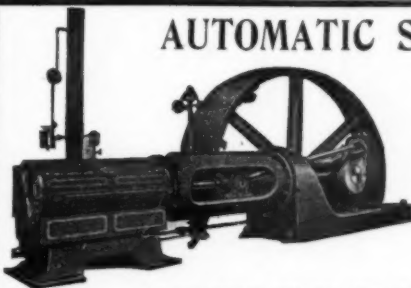
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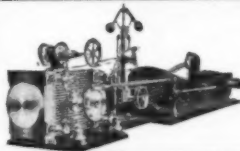
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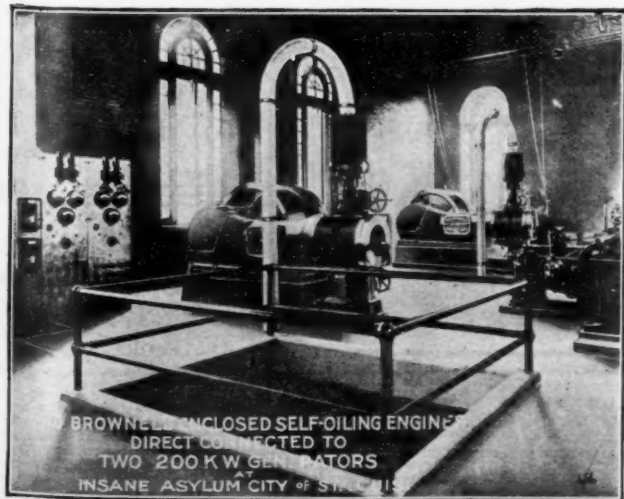


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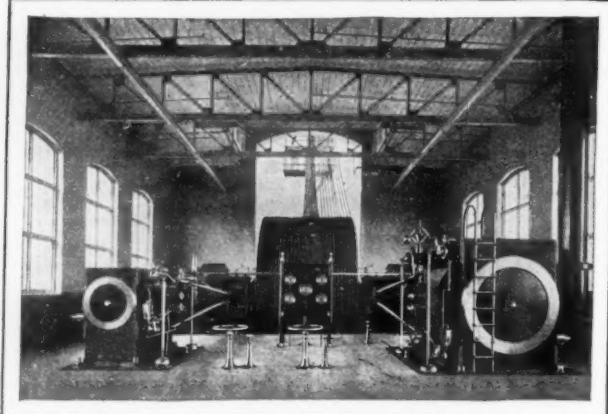
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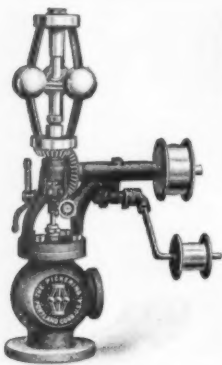
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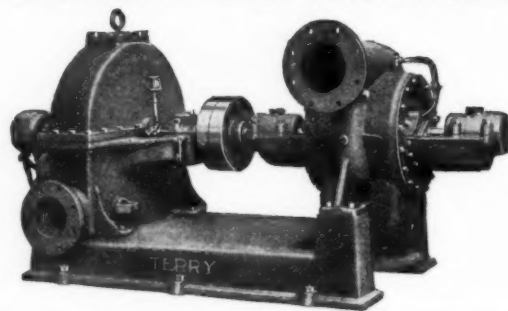
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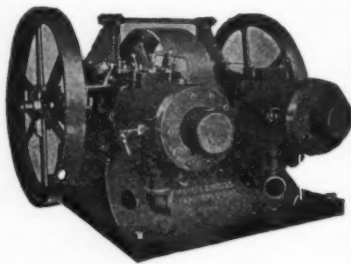
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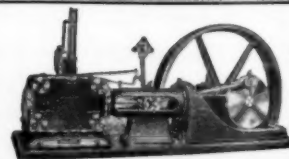
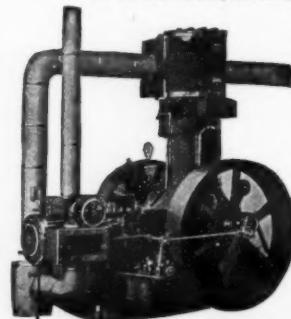
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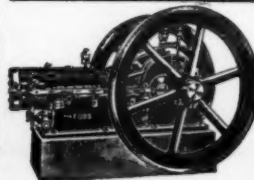
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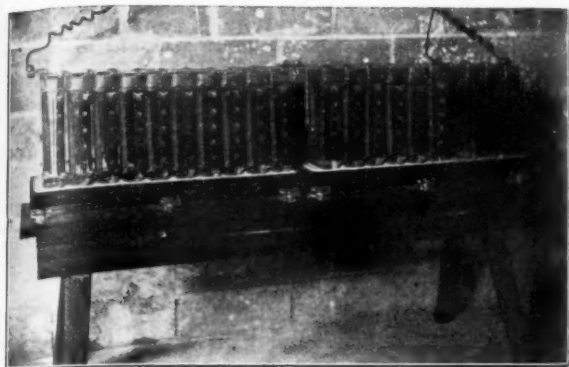


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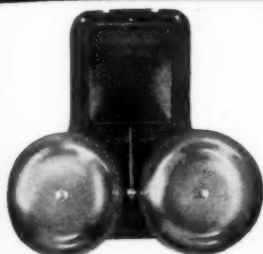
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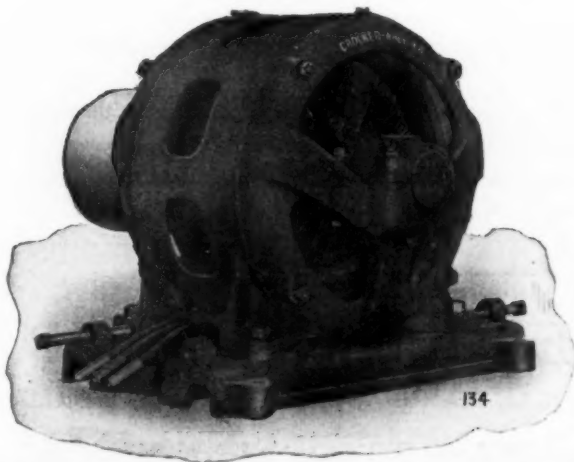
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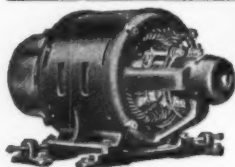
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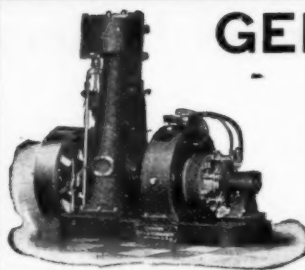
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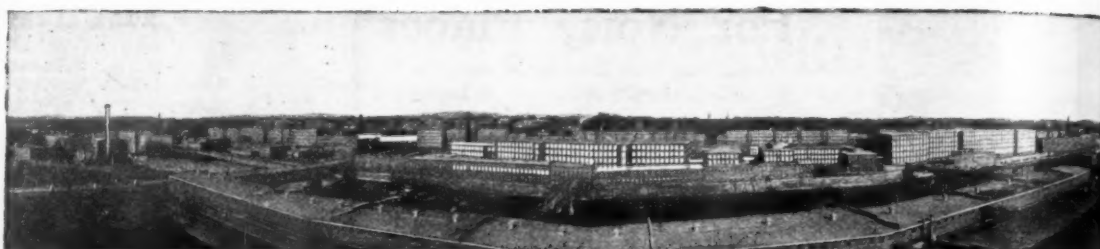
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AN express train could just take away the end of the Amoskeag Manufacturing Company's product, as fast as it is made.

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Compare them, feature by feature, with any and every other fuse on the market and then let your judgment decide which is the best.

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FORT WAYNE ALTERNATORS

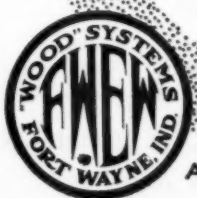
This three phase alternator will operate to 75% of its capacity when worked on a single-phase circuit. If you require more current you can install one of these alternators, hitch it to the single-phase circuit and get as efficient service as from a regular single-phase machine.

It's extremely low priced too because it is designed to be, and actually is, built in a first class way at a very low cost.

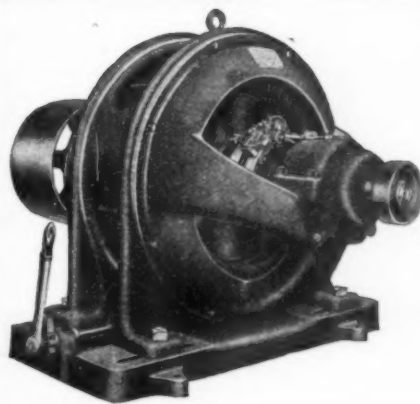
When you desire to put a three-phase circuit in to operation this alternator is ready for service on it—at its full 100% capacity and not a cent need be laid out for additional alternator equipment to supply the three-phase current.

Fort Wayne Electric Works

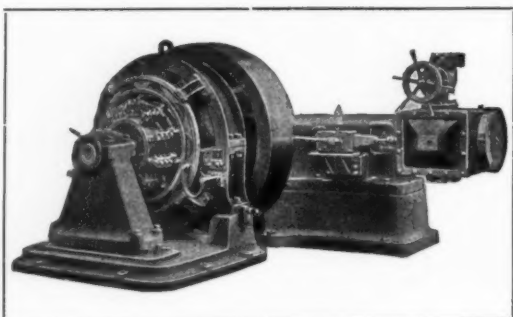
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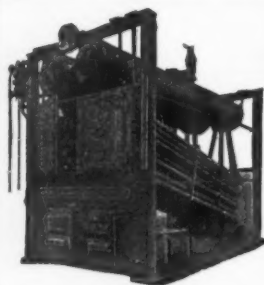
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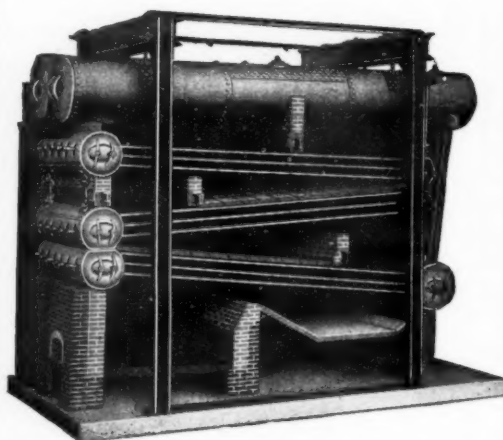
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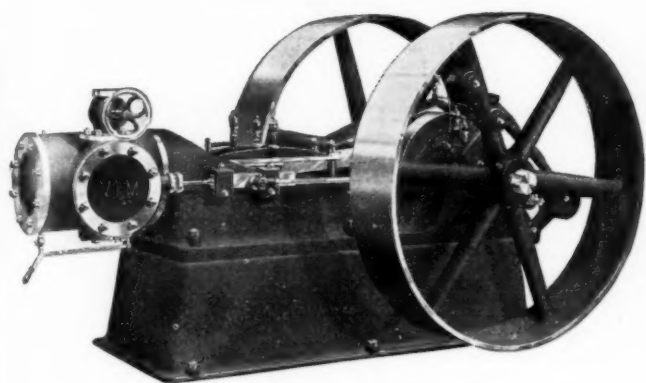
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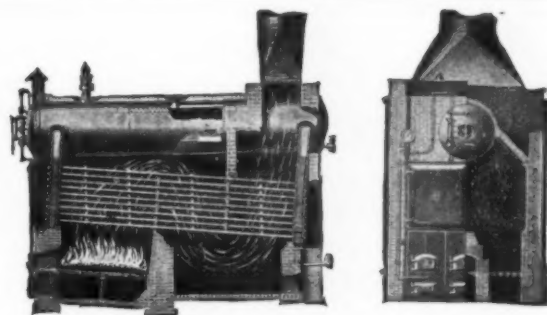
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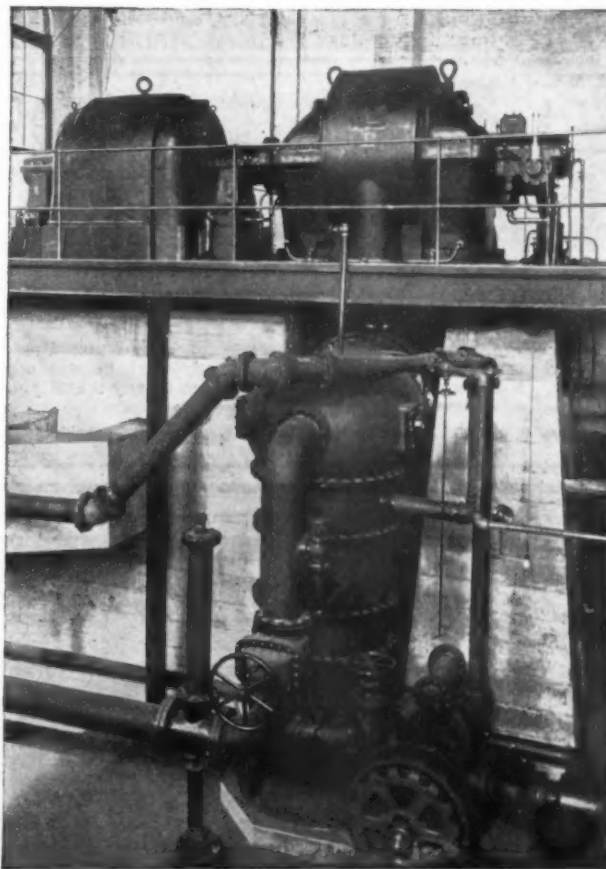
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Westinghouse Leblanc Condenser installed beneath a steam turbine



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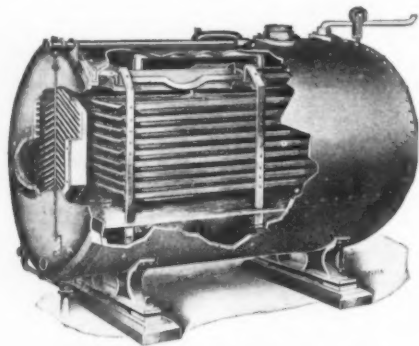
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Oil Separator and Purifier

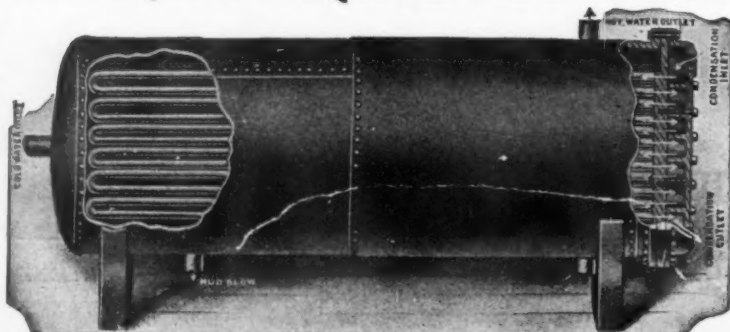
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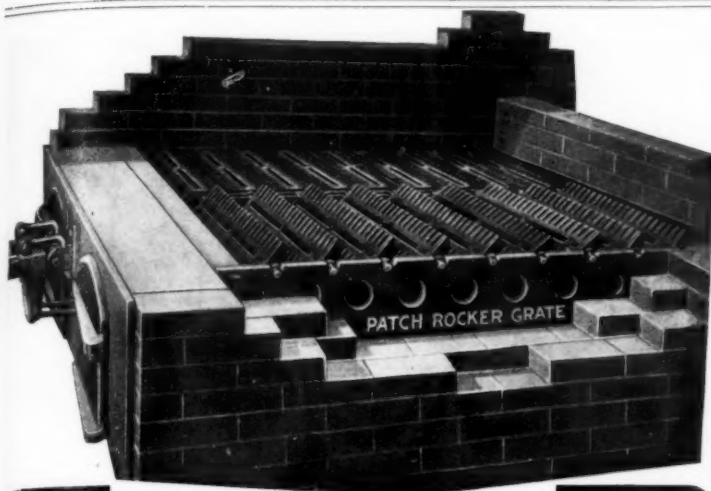


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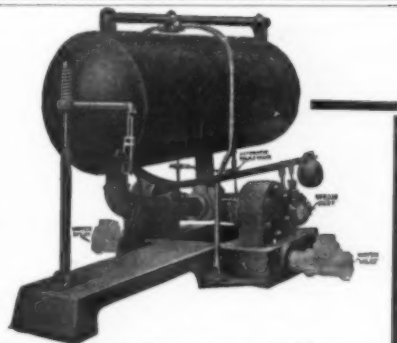
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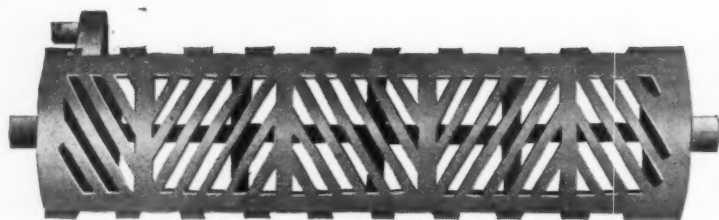
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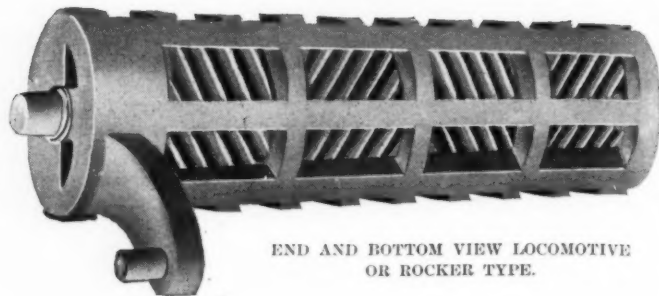
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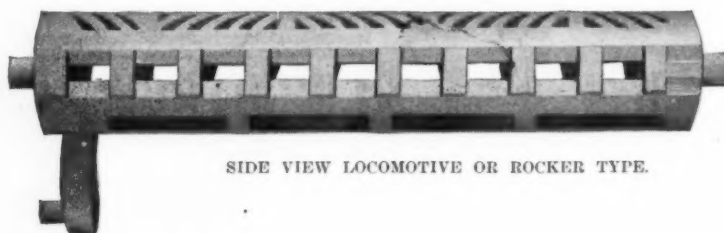
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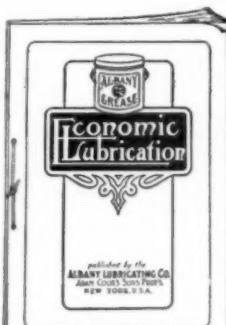
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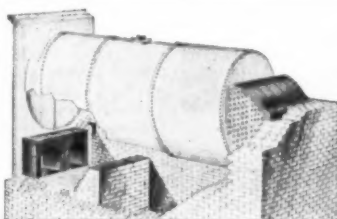
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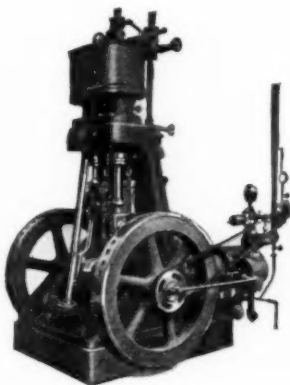
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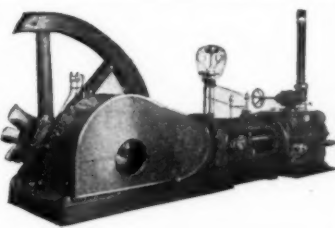
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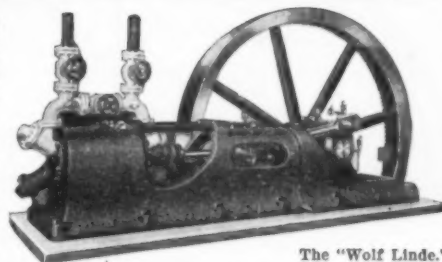
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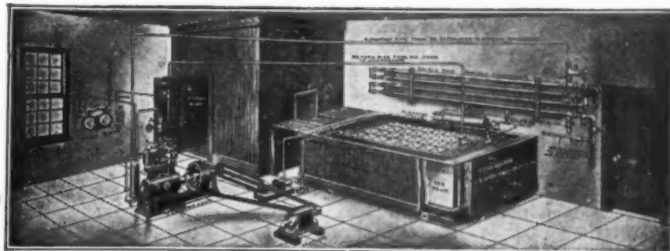
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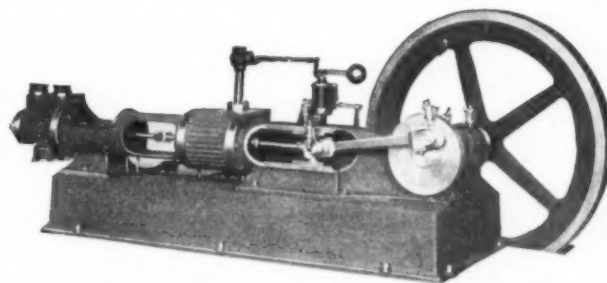


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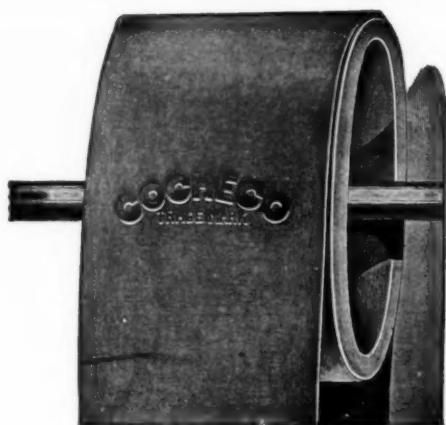
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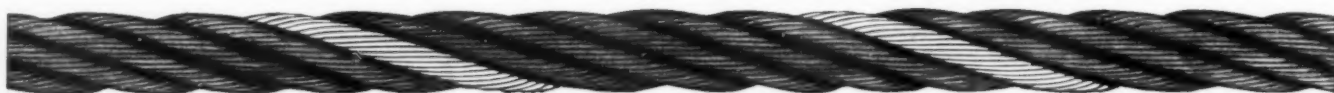
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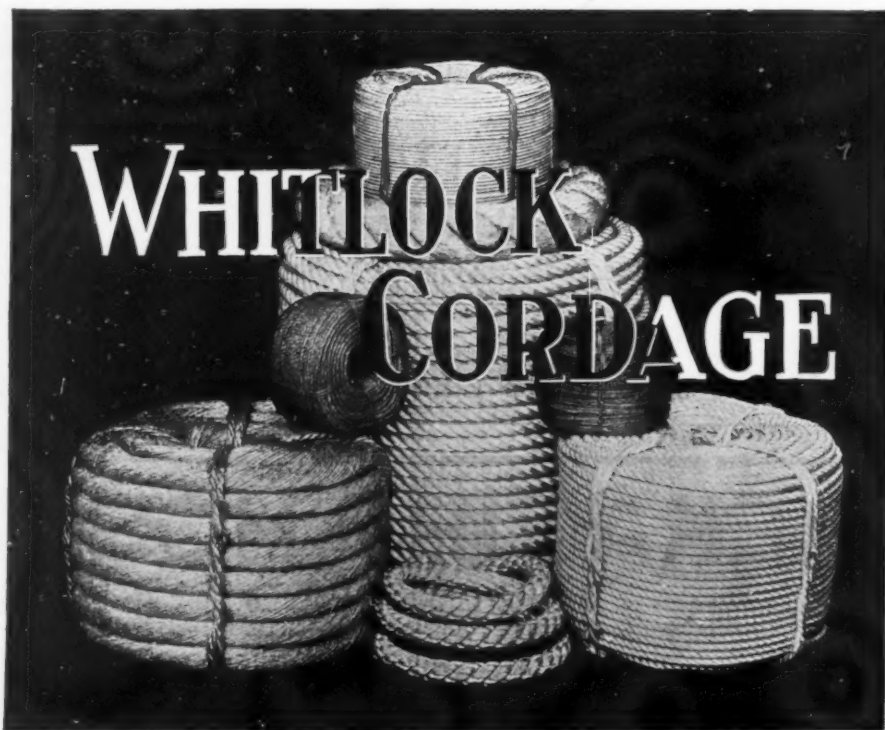
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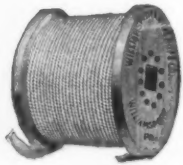
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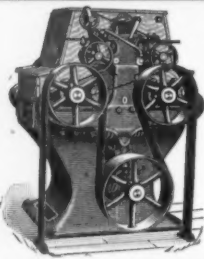
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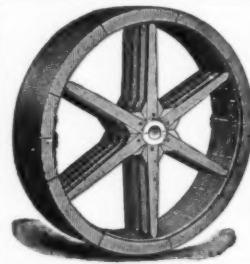
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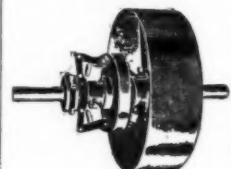
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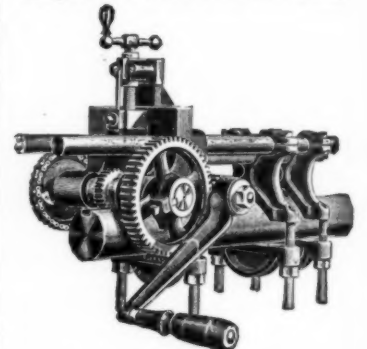
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It makes no difference how finely an advertisement may be written, how clearly it may bring out the points that interest and influence you until you come to the conclusion that the product exploited is about what you want, unless you are sure that there is one certain essential back of the nicely-rounded and persuasive little talk, you will be wary about letting its tempting sentiments penetrate too deeply.

That all-important requirement is Performance. What character is to the man, Performance is to the product. Word of mouth avails nothing unless you know that the arguments advanced will stand a high-proof test. After the purchase you don't want to feel like bringing suit for breach of promise; you don't want a case of Promise *versus* Performance on your hands; you have every right to both Promise and Performance—and when you buy POSITIVE Clutches and Pulleys you get your side of the bargain, full measure and heaping over. If this wasn't true, we wouldn't receive letters of this sort:

"We are pleased to report that this (POSITIVE) Clutch is in constant use, and is giving us most excellent satisfaction. The (POSITIVE) Split Pulley also has proved very satisfactory, as it is in constant use, doing very heavy work at high speed, and is giving us no trouble whatever."

"Most excellent satisfaction" and "very satisfactory" is pretty good evidence that we don't promise more than we can perform; that the exceptional claims we make for POSITIVE Clutches and Pulleys are justified by the experience of users—and there's where the certainty lies.

Thus, if you want to get the very best service, to get heavy work done without question, as sure as the sun rises you can expect to secure such results only with the clutch pulley that is just so much better in design, better in materials and better in construction—and that is the POSITIVE.

Before you buy just consider that the POSITIVE Clutch Pulley is the clutch pulley of both PROMISE and PERFORMANCE.

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32 Lansing Street, BUFFALO, N. Y.

New York Office, 95-97 Liberty Street

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Alundum Grinding Wheels for Steel



Crystolon Grinding Wheels for Cast Iron

Some time you will use Alundum Grinding Wheels for Steel grinding and Crystolon Grinding Wheels for grinding Cast Iron. The sooner you start, the sooner you will get high production figures and lower grinding cost.

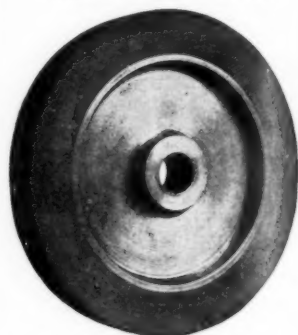
Alundum Plant,
Crystolon Plant,
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Niagara Falls, N. Y.
Chippawa, Canada
151 Chambers St.
11 N. Jefferson St.

NORTON COMPANY
Worcester, Mass.

190

POLISH YOUR METAL THE NEW WAY



These wheels are only for polishing—not for fast cutting. Be sure to get the proper sized grains. Be sure to get the proper speed. When thus selected

SPRINGFIELD ABRASIVE POLISHING WHEELS produce pleasing results

There is no secret about it. Our catalogue prints a table of speeds and our experience is at your disposal as to size of grains.

No time wasted or money spent applying glue to face of wheel.

You ought to read our testimonial letters. Write for catalogue and discount sheet.

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Emery and Corundum wheels are made for any special class of grinding. Tell us your requirements and we will send grades to produce results. 1911 Catalog ready.

Vitrified Wheel Co., Westfield, Mass., U. S. A.

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Manufacturers Record, the Medium for Machinery Advertisements.



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Three facts:

**They do the work better.
They do the work faster.
They last longer.**

THE REASON Abrasive Wheels show such a remarkable record of grinding economy is not only because of the higher grade materials of which they are made, but also because these materials are combined in exactly the right proportions, which have proven most effective for each different kind of grinding.

There is a special Abrasive Wheel for every different purpose. THE PROOF of all this is the great number of satisfied Abrasive users today, and we should be glad to send you the names of some of them in your neighborhood if you will drop us a line.

You will find that Abrasive Wheels "don't merely grind, but cut—cut fast, and are durable."

Tell us the special grinding conditions you are up against, and let us send you a wheel specially prepared to overcome them.

Write us today.

ABRASIVE MATERIAL COMPANY, Philadelphia, Pa., U. S. A.



To increase the efficiency of the man who keeps the whole shop supplied with sharp tools—to be sure that every tool is ground clean and cool without drawing the temper—give him

ALOXITE TOOL GRINDING WHEELS

He and the tools will do more work and better work in a day. Aloxite is hard, sharp and tough—it cuts fast without heating—the wheels stand up to their work so long and require so little dressing that they out-live any others—there is no filling or glazing—just perfect tool grinding every minute they are in use.

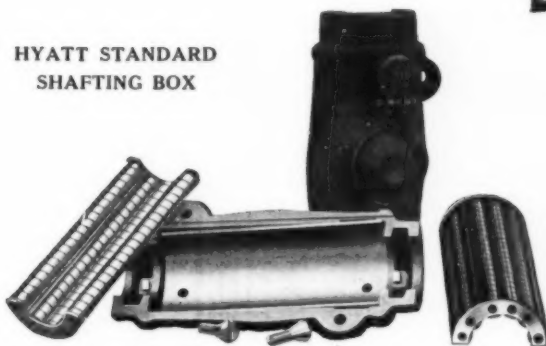
Aloxite is the ideal steel cutting material—let us tell you more about it—let us help you get the right wheel in the right place.

The Carborundum Company

Niagara Falls, N. Y.

HYATT FLEXIBLE ROLLER BEARINGS

HYATT STANDARD
SHAFTING BOX



After twelve years' experience a user of Hyatt Shafting Boxes writes:

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We have been using Hyatt Roller Bearing hangers in our factory for about **twelve years**, and have now in daily use **five or six hundred** of them in all of our different departments. The first hangers purchased were for use in the foundry, under especially unfavorable conditions, and **are still giving perfect service daily**.

We have yet to have the first hanger go wrong, and have never **purchased a cent's worth of repairs** for any of them.

We find they reduce our load so much that we **could not do without them, at any price**. In our foundry we **reduced our load over 50%**, and the line of shafting is in perfect condition now, although it has not been changed for about twelve years. With the babbitted bearings we were compelled to take down the line every year and rebabbitt the boxes, besides having to replace the shafting every year or so on account of its being badly cut up."

Write for bulletin No. 400A and fac-simile of above letter.

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Hyatt Shafting Boxes can be delivered from stock by representative dealers in principal cities.

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(OESTERLEIN PATENT)

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stands without a rival for simplicity, ease of adjustment, extent of friction surface and wear-resisting qualities.

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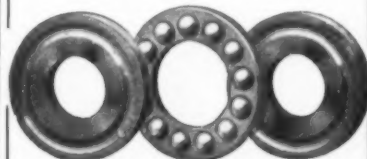
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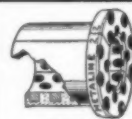
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CINCINNATI, OHIO, U. S. A.

Send for BULLETIN 25, which fully describes these STANDARD GROOVED BALL END THRUST BEARINGS



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Drop us a line and tell us what you want.

Lathe Dept., THE MIAMI VALLEY MACHINE TOOL CO., Dayton, Ohio

Angle Bender

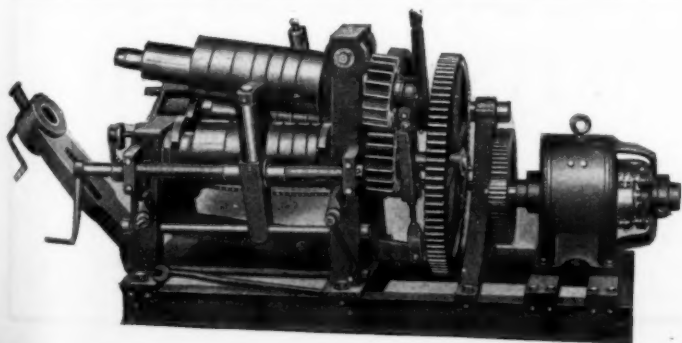
The accompanying halftone shows our patented Angle Bender. It has our patented opening and closing device, as used on our regular Plate Bending Rolls, for automatically opening and closing the rolls for removing the formed circles, which is accomplished in a few seconds. A groove is cut in the rolls for each size angle, therefore it is not necessary to adjust or change collars or rolls for each size angle.

This machine is built in various sizes, for either hand or power drive.

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Cambridge City, Ind.





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with a joint free from wear.**

How many driving chains can
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Only one.

Leave out the second line, "with
a joint free from wear," and
probably a dozen could qualify.
The "rub", then, must be in
that second line.

The Morse Silent Chain

is the only chain which can qualify to above
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See Catalogue No. 9.

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Tools will aid you. BUT if your
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Tools are a necessary part of your
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Morse Twist Drill & Machine Co.

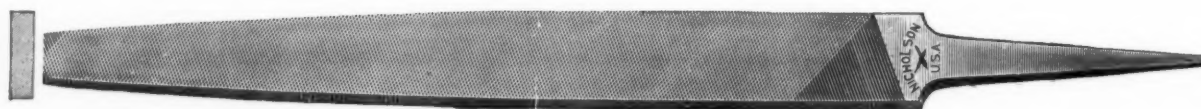
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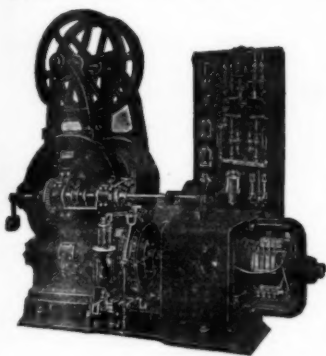
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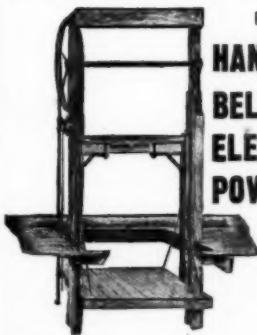
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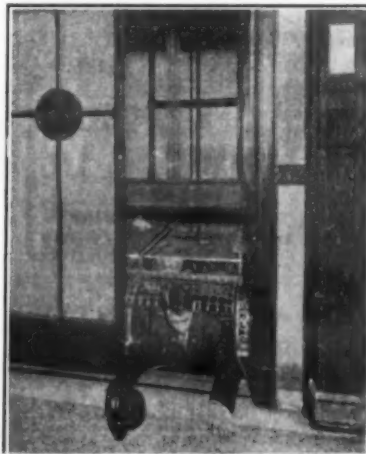
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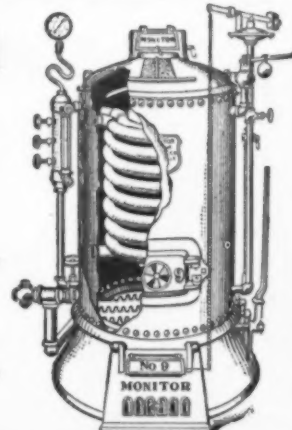
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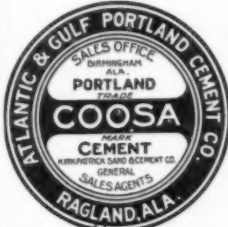
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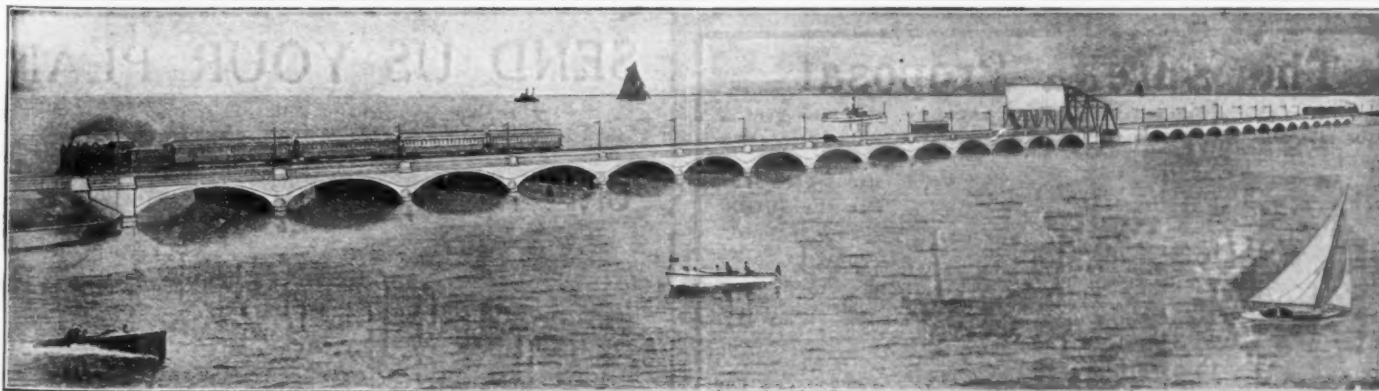


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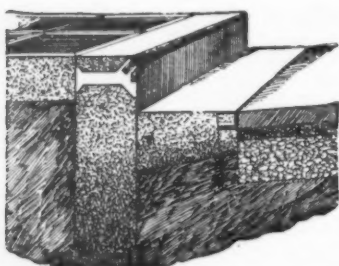
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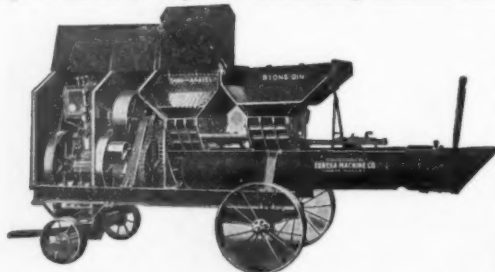
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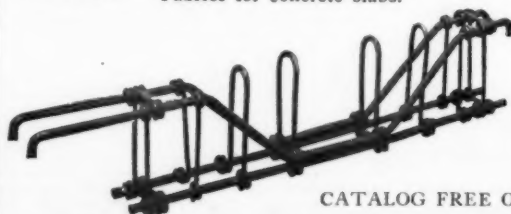
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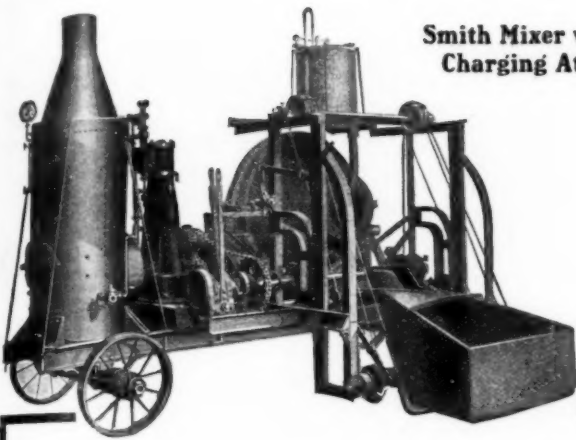
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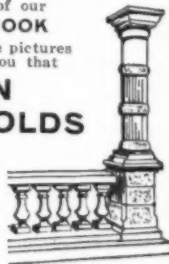
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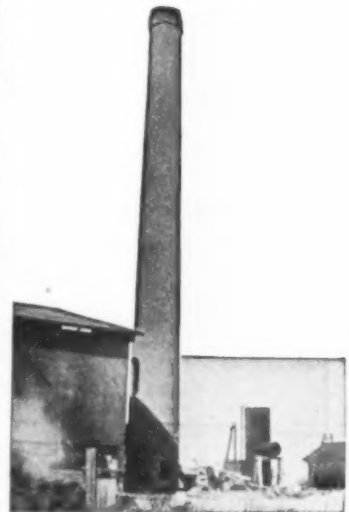
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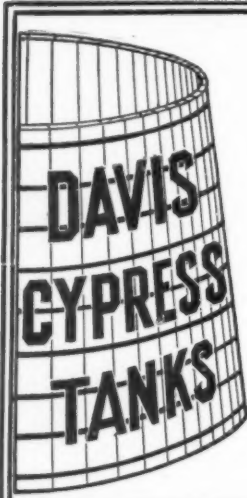
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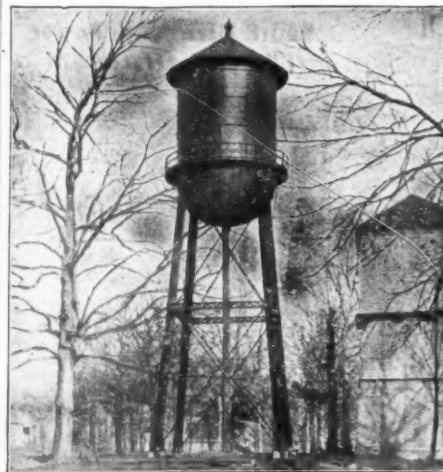
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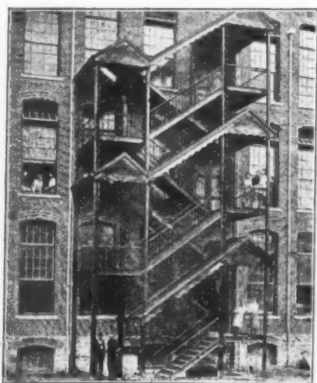
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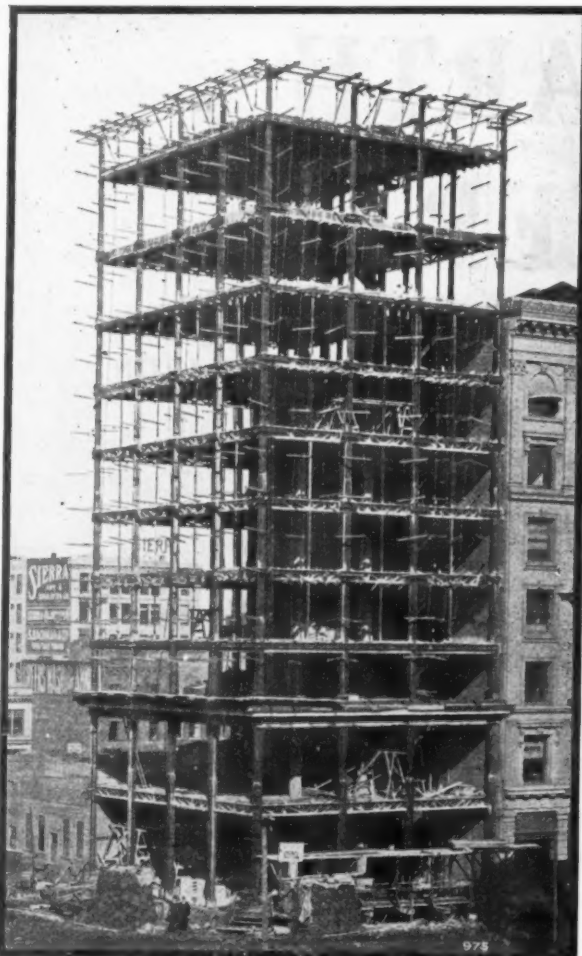
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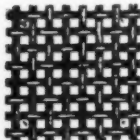




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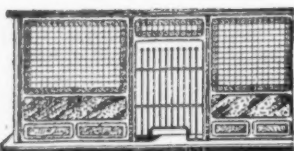
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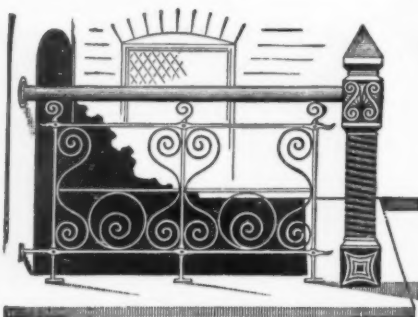
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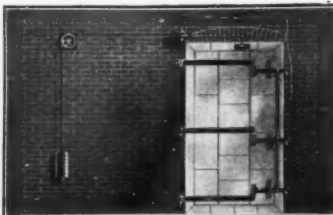
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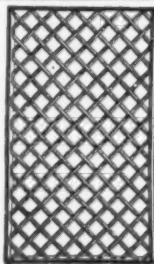
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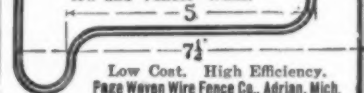
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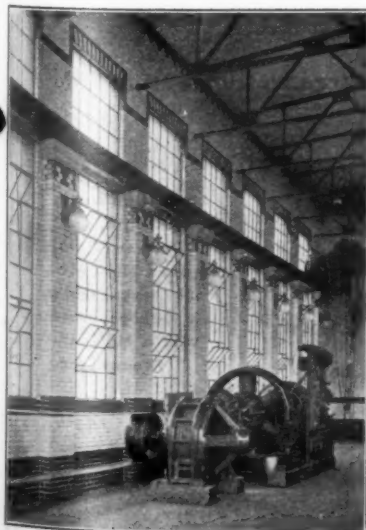
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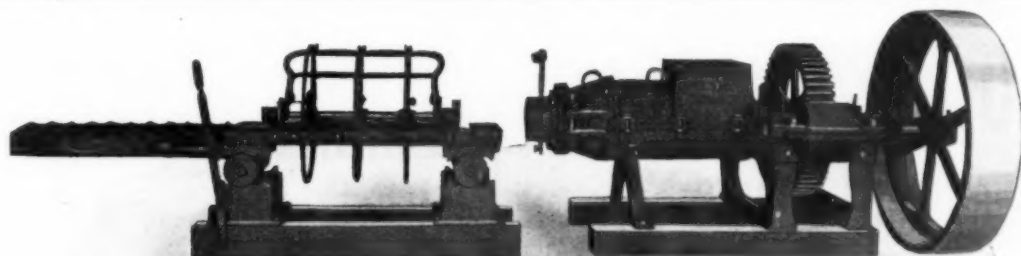
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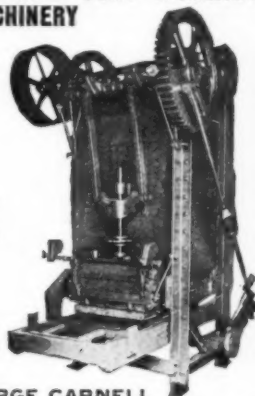
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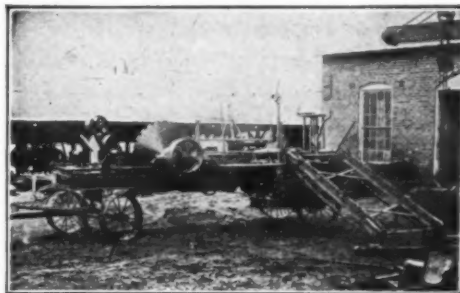
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On the fourth corrugation from the top of every genuine Cortright Metal Shingle (see where arrows are pointing) these words are stamped

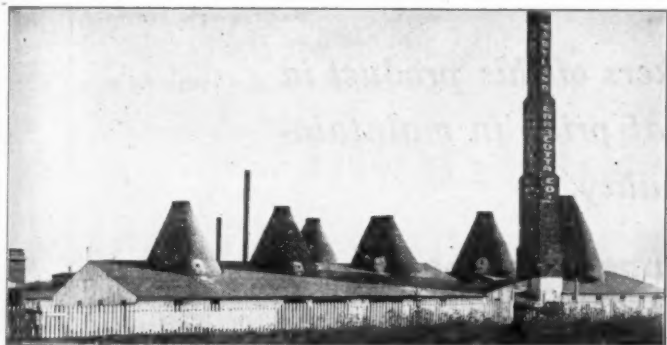
"CORTRIGHT" REG. U.S. PAT. OFF.

and the four designs shown here are the only ones you can accept as genuine Cortright Shingles.

So that you will never take any chances of being fooled into trying something inferior, let us send you our two free roofing books; which you can keep on hand.

Write for these right now, before you forget.

Cortright Metal Roofing Company
Philadelphia and Chicago



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Largest Ornamental Terra-Cotta Plant South

Seven kilns. Original, artistic terra-cotta. Railroad and water transportation enable us to fill Southern orders promptly and at least expense.

The Maryland Terra-Cotta Co., Wicomico and
Clare Sts. Baltimore, Md.

HEATING, VENTILATING, SPRINKLING

COMPLETE ELECTRICAL INSTALLATIONS
WASTE CLEANING MACHINERY

AMERICAN MACHINE & MFG. CO.

Machinists, Contracting Engineers, Founders

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IN PLACE OF LATHS AND PLASTER

Saves money in material, time and labor. Made in sheets 32x36 inches. Easily nailed to the studs and is at once ready for paint, paper, burlap, or a plaster finish.

WALL PERFECTION

Will not shrink, warp or crack. Shows no lath stains. Proof against FIRE, SOUND, VERMIN, HEAT and COLD. Used for partitions, attics, barns and poultry houses. Write for sample and prices.

THE PLASTER PRODUCTS CO.

HAMPTON, VA.

Eclipse Mortar Colors

Our Mortar Colors (red, brown, buff and black) are the strongest and most economical on the market. They will do twice the service of other Mortar Colors. We also manufacture coloring for sand-lime bricks and cement blocks, and are shipping it all over the country.

Write for samples and quotations.

Chattanooga Paint Co.

Chattanooga, Tenn.

WHAT DO YOU DEMAND IN ROOFING?



We've put ourselves in the user's place and are now making a prepared gravel roofing which fulfills all requirements. 'Twill pay you to look into its merits.

Armitage Mfg. Co.
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We Will Send You FREE a Sample of Carey's Roofing

Also a booklet giving practical information and proof as to its quality and durability. The facts presented are based upon 25 years' actual time-test service of the Roofing itself and our experience in the manufacture and sale of



Investigate and learn WHY

- Carey's is the best roofing in the world.
- It never cracks or breaks from contraction or expansion.
- The heavy asphalt cement composition cannot deteriorate.
- The joints are absolutely water tight.
- It offers greater resistance to heat, fire, fumes and other severe conditions.
- It lasts longest and proves the most economical of all roofs.

Write Today—We Will Tell You Why—Use Coupon.

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56 Wayne Ave., Cincinnati, O.

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We are the largest makers of this product in America, and we take great pride in maintaining its high standard of quality.

The price for the **Genuine Iron Sheet** is the same or a little less than that of the galvanized steel, which it will outwear two to one.

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IRON ROOFING

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CAPACITY - - - - - TWO MILLION FEET B. M. PER MONTH
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EXCLUSIVELY**

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Other Southern industries—Atlantic Coast Lumber Corporation, Georgetown, S. C.; Trexler Lumber Company, Prentiss, Miss.; Davis Coal & Coke Company, Thomas, W. Va.—have used immense quantities of **NEPONSET PAROID ROOFING**. It is permanent, easy to lay, clean to handle. Write for samples.

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All "asphalt roofing" is not Trinidad Lake Asphalt Roofing—there's a great big difference. Look out for that when you buy your roofing.

Ordinary so-called asphalt roofings are made of artificial products masquerading as real asphalt. They are nothing more than the residue from petroleum oil or native bitumens made into a black pitch, which is easily affected by changes in weather.

Genasco

the Trinidad-Lake-Asphalt Roofing

Is made of genuine *natural* asphalt—perfectly stable and uniform in quality. Trinidad Lake Asphalt is endowed by Nature with *natural* oils; and they stay in it. This gives Genasco its wonderful resistance to rain, snow, sun, wind, heat, and cold—and keeps it lastingly waterproof.

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Natural asphalt in roofing is the greatest weather-resister known. To make sure of roofing that will permanently protect, ask your dealer for Genasco, the Trinidad-Lake-Asphalt Roofing, with either mineral or smooth surface. Fully guaranteed.

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Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

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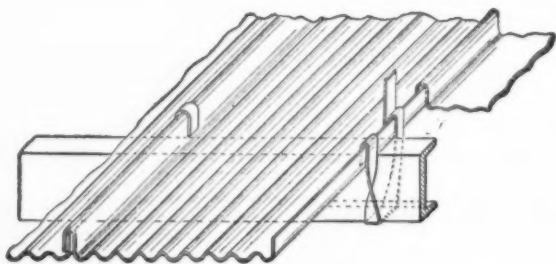
Cross-section Genasco Stone-surface Roofing



Gravel
 Trinidad Lake Asphalt
 Asphalt-saturated Wool Felt
 Trinidad Lake Asphalt
 Asphalt-saturated Wool Felt

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Edwards Patented Pressed Standing Seam Corrugated Steel Roofing



Made in Number 16 to 28 Gauge, Painted or Galvanized

Can be applied on iron purlins without nailing, riveting or puncturing the metal.

The Ideal Fire-proof Roof Covering for Factories, Foundries, Warehouses, Railroad Sheds, Auditoriums, Public Buildings, etc.

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 With Improved "Lock That Locks"
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it is specially made according to strict specifications, based on the hardest use any roof can ever be subjected to. We know sheet metal, and we know roofing; and "Magnet Brand" is the result of all our 20 years' experience.

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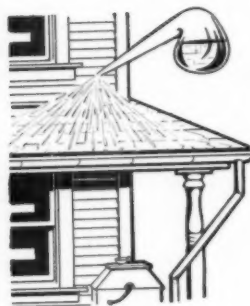
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CINCINNATI, OHIO



Where You Have No Water Works

a slate roof is hygienic, because it gives you pure rain water in your cistern.

Slate is non-absorbent, needs no paint or coating, so that the water it sheds is not contaminated nor flavored with paint or tar particles.

Rain water—nature-distilled—is the purest water, provided it is kept pure.

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Although engineers and architects use great care in their specifications for concrete, brick work, beams, floors, etc., many of them are content with simply specifying "the roof shall be a good gravel roof" or a 3, 4 or 5-ply "tar and gravel roof." Such a loose definition is equivalent to telling the contractor to put on anything he likes.

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If architects, engineers and owners will insist that the roof be laid *strictly* in accordance therewith they are certain of getting the best and most economical form of roof covering.

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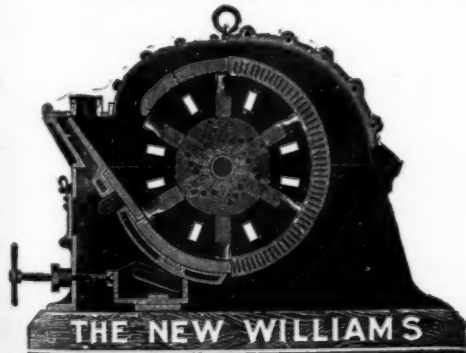
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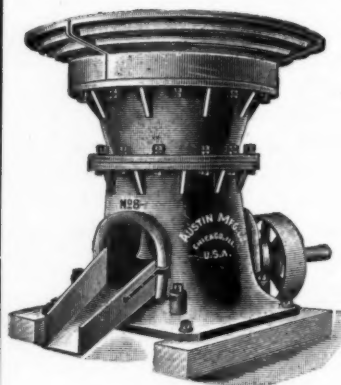
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Send a sample of the material you wish ground.

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The Only Self-Lubricating Crusher.

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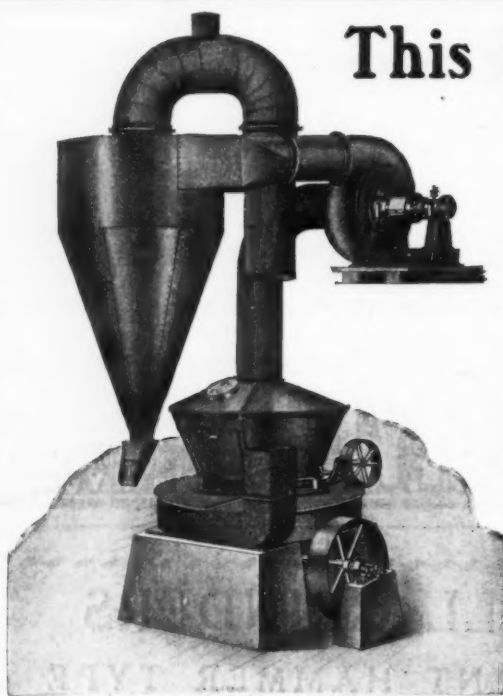
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Raymond Bros. Impact Pulverizer Co.

1502 Harrison Street,

Chicago, Ill.

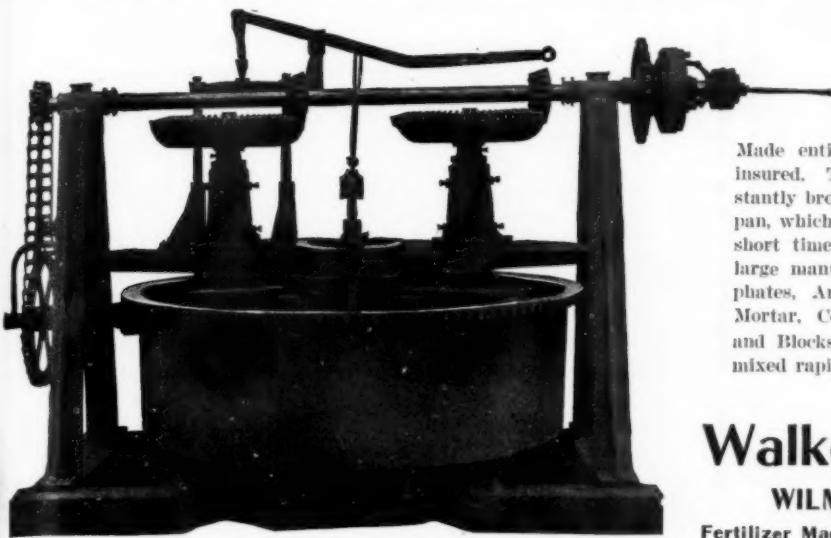
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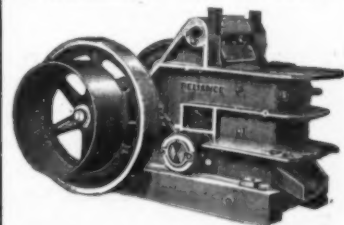
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in all METALS—
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SCREENS for coal, coke,
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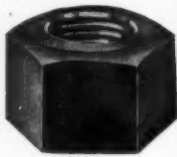
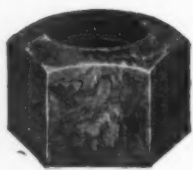
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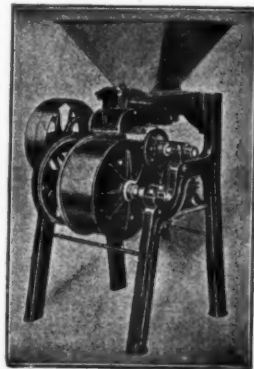
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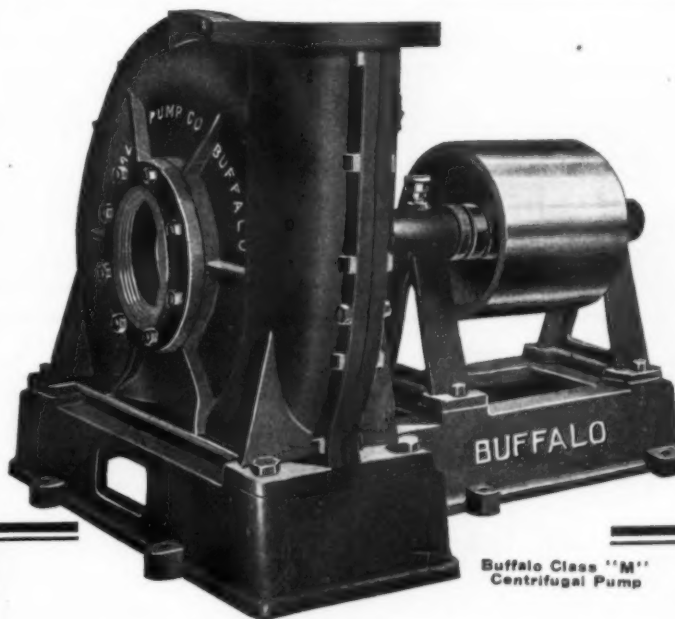
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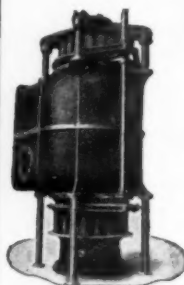
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See advertisement on page 20

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ond-class matter.]

BALTIMORE, AUGUST 3, 1911.

FARM VALUES OF FIVE SOUTH- ERN STATES.

In last week's issue the MANUFACTURERS RECORD published an estimate of the increase in the values of farm lands and farm buildings in the South between 1900 and 1910, indicating an increase of 118 per cent. in land values and of 91.6 per cent. in building values. Since then the preliminary figures of five States have been announced permitting the following comparison:

Farm Land Values.

States.	1900.	1910.
Alabama.....	\$100,160,000	\$216,510,000
Georgia.....	138,515,000	369,120,000
Mississippi.....	114,837,000	250,715,000
Texas.....	591,551,000	1,613,513,000
Virginia.....	200,615,000	393,837,000
	\$1,145,704,000	\$2,843,695,000

Farm Building Values.

States.	1900.	1910.
Alabama.....	\$34,453,000	\$71,163,000
Georgia.....	44,855,000	108,483,000
Mississippi.....	37,150,000	79,580,000
Texas.....	100,223,000	206,200,000
Virginia.....	70,963,000	137,081,000
	\$287,644,000	\$605,507,000

In these five States the increase in the value of farm lands was from \$1,145,704,000 to \$2,843,695,000, or by \$1,697,991,000, equal to 148.2 per cent., and the increase in the value of farm buildings was from \$287,644,000 to \$605,507,000, or by \$317,863,000, equal to 110.5 per cent.

The total value of farm lands and buildings in the South in 1910 approximated \$6,300,000,000, of which the \$1,823,000,000 of Texas was nearly 28 per cent. Florida ranked first in the rate of increase in the value of farm lands in the ten years, it being 203 per cent., with Texas second, 173 per cent.; South Carolina third, 169 per cent.; Georgia fourth, 166 per cent., and North

Carolina fifth, 141 per cent. Florida led, too, in the rate of increase in the value of farm buildings, 144 per cent., with Georgia second, 142 per cent.; South Carolina third, 137 per cent.; Texas fourth, 109 per cent., and Arkansas fifth, 109 per cent. The rates of increase, 35 per cent. in the value of land and 42 per cent. in the value of buildings in Maryland, were the smallest in any Southern State.

LINES INTO A VAST COAL REGION.

In view of the persistent rumors that the Carolina, Clinchfield & Ohio Railway, which was completed a year or two ago from Dante, Va., to Spartanburg, S. C., will be acquired by the Seaboard Air Line and the Chesapeake & Ohio Railway, and the further report that the Seaboard directors will meet August 15 to consider a joint lease of the Clinchfield, particular interest will be felt in studying the advantageous position of that road. This is shown by a map presented upon another page in this issue of the MANUFACTURERS RECORD, which is evidence of the wisdom of those who planned and executed the great scheme of construction that resulted in the creation of this important line. The interests which financed it are also concerned in the Seaboard, so it is not surprising to find the latter reported as associated in the pending deal, especially considering the fact that the system needs to have its own route to coal fields, whence it may obtain fuel in unlimited quantities whenever required. Indeed, it would seem that the Clinchfield or some line to a great coal field, or some close affiliation with an adequate coal supply other than the Birmingham line, will become almost a necessity to the Seaboard. The Chesapeake & Ohio is also naturally interested in the transaction, because it will be the northern connection of the new road when the latter's construction plans are fulfilled.

But this rumored deal is only part of the movement now fairly under way to locate lines into the enormous coal fields of Southwestern Virginia and Eastern Kentucky. The recent association of the Baltimore & Ohio Railroad with the Consolidation Coal Co.'s plan to build a line from Shelby, Ky., on the Chesapeake & Ohio Railway, into an entirely new mining region directed attention to the possibility of lines—other than those in immediate proximity to the fuel—coming in and sharing in the prosperity following the opening and development of coal fields. It was to be expected that the Louisville & Nashville, the Chesapeake & Ohio and the Norfolk & Western railroads would be in the game of getting strategic holds in such a great coal region, but the action of a company whose lines are more than a hundred miles away becoming financially connected with the building of a coal road away down in Kentucky is something that has made other companies sit up and take notice with con-

cern, for there remains the chance that still some other road will make a move to enter the same region.

The article accompanying the map embodies some of the principal facts relating to the vast stores of coal lying in the mountains of Kentucky and Virginia, and notes the impressive predictions made years ago as to the future of the section. None can read it without being deeply impressed with the extent and quality of the coal nature has placed so convenient to the hands of man. Wonderful industrial developments are certain for this territory, toward which the railroads are actively stretching out their arms.

NATIONAL CORN EXPOSITION FOR SOUTH CAROLINA.

In 1910 Jerry Moore, a South Carolina boy, produced in a corn-growing contest 228 bushels and 3 pecks of shelled corn on one acre of land at a cost of 43 cents per bushel, and Archie Odom, another boy of the same State, produced 177 bushels and 3 pecks at a cost of 23 cents a bushel. These results, proving what can be accomplished through a combination of fertile soil and intelligent husbandry, were a splendid advertisement of South Carolina, as well as of the South as a whole which had been well advertised by its corn crop of 919,363,000 bushels, an increase of 176,796,000 bushels, or 23.8 per cent. over the crop of 1909, while the increase in the rest of the country was but 176,541,000 bushels, or 8.7 per cent. Between 1900 and 1910 the corn crop in the South increased from 476,656,000 bushels to 919,363,000 bushels, or 92.9 per cent., while the increase in the rest of the country was from 1,628,447,000 bushels to 2,206,350,000 bushels, or 35.5 per cent. In the same period the average yield of corn per acre increased from 15.7 bushels to 21.5 bushels, or 36.9 per cent. In the South, with the increase in the whole country equalling 2.1 bushels per acre, or 8.3 per cent., and the increase in South Carolina being from 7 bushels to 18.5 bushels, or 164.3 per cent.

It is eminently fitting, therefore, that Columbia, the capital city of South Carolina, should be selected as the place for the 1913 National Corn Exposition, provided certain conditions are carried out. The selection is a natural one, and it should bring immense benefits not confined to South Carolina, but extending to all of the Southeastern States. To meet the cost of the exposition a fund of \$40,000 must be raised, \$20,000 of which are to be paid in monthly installments between now and the opening of the exposition in the last week of January, 1913. In addition a \$25,000 building must be erected on the fair grounds. Of the total \$65,000 necessary, Columbia has pledged \$25,000 for the building, three citizens of Columbia have contributed \$3500, one railroad entering Columbia has subscribed \$5000, and the City of Charleston has pledged \$2000. Less than \$30,000

is still to be provided for. It ought not to be a difficult matter to raise that amount in a short while. South Carolina can do it easily. But it ought not to be left entirely to the people of that State. The effect of having such an exposition at Columbia will be of such importance that half a dozen other States should be anxious to be represented in the financing of the undertaking.

BUSINESS UNDER DIFFICULTIES.

As combinations to regulate prices are now under legal ban, many corporations must at times be put to their wits' end to know how to fix prices. If they sell for the same prices as competitors, they will naturally be charged with being in collusion to regulate prices in restraint of trade. If they sell at a lower price than their competitors, they will, of course, be charged with cutting prices for the purpose of driving their competitors out of business in order to buy them up at bankrupt figures. If they charge more than their competitors, they will either lose all the business or be denounced as robbing the public by high prices.

Not only are large corporations placed in this embarrassing position, but business men of all kinds are up against it. When considering the various sides of the question of prices, whether to undersell or to sell at the same price as others, or at a higher price, the average man trying to do business today is certainly "between the devil and the deep blue sea," and he is not quite certain which way to jump. There seems to be no safety for him where he is standing, and if he seeks to avoid the devil on one side he is afraid of being drowned on the other. Every step taken seems to be open to criticism. If he cuts prices, the manufacturer will naturally be charged with trying to injure some competitor, even though superior advantages may enable him to produce and distribute at a lower cost than his competitors. If in order to avoid this dilemma he tries to maintain the same price as his competitors, he is in constant danger of governmental action and newspaper denunciation on the ground that he is in a conspiracy.

In all seriousness, the business interests of the country are facing very difficult problems. Comparatively few men know just how to act or where they stand. Every effort to secure trade is surrounded with harassing difficulties. However honest and well-meaning they may be, they are often in danger of some sort of criticism or prosecution. With the complete change of railroad management from the owners to the Government, which is the net result of the Interstate Commerce Commission; with a clamor in Congress to make political capital by a complete upsetting of the tariff to the great injury of the industrial interests of the country, and especially of the South; with investiga-

tions used for political effect rather than for the good of the country, we are passing through a trying period for business interests. The time has come when there should be more constructive and less destructive work in Congress.

HOW THE SOUTH IS INJURED.

The *Telegraph* is a tariff reformer of the old Cleveland, Carlisle, Turner school, and we have always felt and believed that free raw material as a platform pledge was simply a sop to the manufacturers, and we do not see any necessity for keeping up that program. We must raise revenue to support the Government, and we might as well raise some of it on the raw material produced in the South and the country at large. Of course there is an amount of "incidental protection" involved, but incidental protection is a Democratic phrase, which means that it is a Democratic doctrine—but not protection for protection's sake.—*Macon Telegraph*.

The *Telegraph* might have added that the "free raw material" campaign has been waged for the express purpose of securing what certain manufacturers call raw material free of duty, while retaining a duty on their finished product. This is protection pure and simple. It is the most unfair of all protective tariffs. Mr. Schwab, for instance, was insistent in seeking to have iron ore put on the free list. Mr. Schwab has just closed a contract for what is said to be \$25,000,000 worth of Swedish ore for his Bethlehem Steel Works, but that will not cause him to sell his product at one dollar less to the consumer. In the meantime millions of tons of iron ore lie unutilized in the South. The Pennsylvania Steel Co. was very active in the fight for free iron ore. Why? That company owns 600,000,000 tons of iron ore in Cuba, and at its Sparrows Point plant it is using foreign ores, and by having water transportation for its rails it is placing them in Florida and Texas and other Gulf points as against the steel rails made in Alabama. Thus Alabama is injured in order that the Pennsylvania Railroad, which controls the Pennsylvania Steel Co., can get foreign ores without paying a duty on them. And so runs the whole story. The South is being sacrificed in the house of its friends for a theory based on absolutely false foundation.

PROFITABLE BUSINESS OPERATIONS IN OTHER LANDS.

That its employment in America is not essential to the profitable use of American capital is a patent fact conclusively evidenced by the annual report of J. G. White & Co., Limited, of London. This truth is something which is likely to be overlooked or forgotten by some members of Legislative bodies and other individuals elsewhere whose ambition seems to be the harassing of industrial effort when it has assumed a large corporate form. J. G. White & Co., which is now an incorporated engineering and contracting concern with headquarters in New York city, originated in Baltimore about twenty years ago in connection with the street railway conversion and development then in progress. At first the firm was White, Crosby & Co., but later on J. G. White & Co., by which name the house is still known, although now it is an incorporated affair, the London concern being an outgrowth of the American enterprise.

A statement issued by an officer of the parent house says that the English company, which was organized in 1900, resulted directly from the successful operations of the New York company in foreign lands. Most interesting,

however, are the figures revealing the profits made. The statement says:

The English company has this year declared a total dividend of 12 per cent. on its preferred stock and 62 per cent. on its common stock, after which the net earnings for the year have been sufficient to write off the balance of "purchase of business" account and to increase the special reserve and surplus account to an amount equaling the total dividends paid. This has been done after making ample provision for contingencies and without writing up the value of securities owned. Some of these securities have increased materially during the year, so that even greater profits were actually made, although not realized, and consequently not considered as earned. The market value of the ordinary shares, par value £1, has increased from £1 6s. in 1906 to £7 4s. in 1911.

Furthermore, the report of the chairman goes into details respecting the profits of the company thus:

The net profit for the year amounts to £91,466 (about \$443,610), as against £64,801 (about \$314,284) for last year. * * * During the ten and one-half years of the company's life, including the distribution recommended in the report, the company will have paid out in dividends £169,708, and has retained in the business out of profits £182,787. The directors believe in continuing the policy of building up reserves, and therefore propose that of the sum of £88,812 now available for distribution, £15,000 be allocated to writing off the balance of purchase of business account and a further £15,000 be placed to the credit of a new reserve account for the equalization of future dividends. This total sum of £30,000 having been set aside, your directors recommend a dividend of 7 per cent. for the half year on both the preferred and ordinary shares, making, with the interim dividend of 5 per cent. paid January 1, a total distribution of 12 per cent. for the year. As you know, the preferred shares are accumulative as to 6 per cent., and therefore they share with the ordinary up to a total distribution of 12 per cent., the ordinary being entitled to remaining surplus profits. We further recommend an extra dividend of 10s. per share, or 50 per cent. on the ordinary shares, making a total of 62 per cent. for the year, leaving the balance of £19,812 to be carried forward to next year's accounts.

The foregoing exhibit of most gratifying financial results to the shareholders of J. G. White & Co., Limited, are especially interesting to Americans, as it reveals the possibility of their competing successfully and profitably with the skilled and astute engineers and contractors of Europe, from whom there are none greater. It also inclines to encourage Americans of ability and enterprise to seek foreign fields whenever conditions at home are objectional, or when an enlargement of business is desired. Indeed, there is no doubt that people of this country could generally be much more interested in business abroad if they earnestly desired it. But they would find it necessary to study trade conditions and demands in other countries and endeavor to meet them instead of trying to trade in their own way and to sell only such things as they choose to offer. The foreign field is far greater than people in the United States generally realize. The English and the Germans, especially, study and develop foreign business with painstaking efforts, because circumstances compel them to do so, but in the United States there has been so much to do at home that most of us have not looked outside for gain. But the time is near, notwithstanding the great development to come, particularly in the Southern States, when our manufacturers, our merchants and others, as well as our engineers, will find it necessary to participate to a much greater degree in the business affairs of the world across the seas. Moreover, with the growing disposition in this country to unnecessarily harass capital under the delusion that

we can create prosperity in this way, our people seem to forget that the whole world is calling for capital, and that men and money will go to the countries offering the greatest safeguards.

SOUTHERN INDUSTRIAL OPPORTUNITIES.

In July the Construction Department of the MANUFACTURERS RECORD, trial, railroad, engineering, contracting, building and general business operations in the South and Southwest. These statements, which have appeared daily in the *Daily Bulletin* and weekly in the MANUFACTURERS RECORD, embrace all lines of new and progressing developments, and are concisely summarized in the following table:

Total of items to August 1.....	33,813
Construction.....	28,070
Machinery, Proposals and Supplies Wanted.....	4,376
Burned, etc.....	1,367
Items for the preceding six months previously detailed.....	
July items divided in detail are as follows:	
Bridges, Culverts, Viaducts.....	85
Canning and Packing Plants.....	27
Clayworking Plants.....	11
Coal Mines and Coke Ovens.....	31
Concrete and Cement Plants.....	3
Cotton Compresses and Gins.....	54
Cottonseed-oil Mills.....	14
Drainage and Irrigation.....	23
Electric-light and Power.....	94
Fertilizer Factories.....	33
Flour, Feed and Meal Mills.....	18
Foundry and Machine Plants.....	41
Gas and Oil Developments.....	30
Ice and Cold-storage Plants.....	56
Iron and Steel Plants.....	96
Land Developments.....	99
Lumber Manufacturing.....	79
Metal-working Plants.....	13
Mining.....	49
Miscellaneous Construction.....	67
Miscellaneous Enterprises.....	145
Miscellaneous Factories.....	221
Railway Shops, Terminals, Roundhouses, Sheds, etc.....	21
Road and Street Work.....	235
Sewer Construction.....	103
Telephone Systems.....	36
Textile Mills.....	34
Water-power Developments (previously noted under Electric Light and Power).....	15
Water-works.....	129
Woodworking Plants.....	49
Railways.....	
Steam.....	187
Street.....	39
Buildings.....	
Apartment-houses.....	57
Association and Fraternal.....	44
Bank and Office.....	126
Churches.....	111
City and County.....	93
Courthouses.....	42
Dwellings.....	423
Government and State.....	38
Hotels.....	81
Miscellaneous.....	116
Railway Stations.....	66
Schools.....	216
Stores.....	263
Theaters.....	30
Warehouses.....	70
Burned, etc.....	192
Machinery, Proposals and Supplies Wanted.....	661
Total for July.....	4774

The Machinery, Proposals and Supplies Wanted list for July includes 28 requests from foreign countries, including Cuba, Porto Rico, Mexico, Australia, France, Holland, Germany, Roumania and Greece.

TEXAS THE GREATEST RAILROAD STATE.

Dispatches from Austin say that the Texas Railroad Commission has issued a preliminary report stating that approximately 1000 miles of new main-line railroad were built in that State during the year ended June 30, 1911, and that many new roads and extensions of old ones are now either under construction or projected.

This statement, taken in connection with the Texas figures presented in the advance sheets of Poor's Manual for 1911, is especially interesting, because Poor's shows that on December 31 last Texas had 14,629 miles of main-line railroad, and, assuming that 500 miles were completed between then and June 30 of this year, the Lone Star State must now have more than 15,000 miles of railroads, which places her about 3000 miles ahead of Illinois, that last December had 12,111 miles of lines. For a long time Illinois held the lead as the greatest railroad State, but Texas went

to the front two or three years ago, and now the extensive railroad development within her boundaries promises to keep her ahead indefinitely.

NEW ENGLAND AND THE MIDDLE WEST IN MANUFACTURING.

Discussing the recent decision of the Interstate Commerce Commission on charges for long and short hauls and the consequences of operating under the new zone conditions, the *Wall Street Journal* says that the railroads are thereby deprived of a power of discrimination in the service of different localities, but that they will be better in the long run without that power. As to shippers, it says:

The possibility of carrying freight from the factory in New England by one carrier or another to the Pacific Coast, and thence transshipping it to the intermountain region at a freight cost less than that to the manufacturer of the same article in Chicago, at least operated as a valuable differential in favor of the Eastern manufacturer. If, however, the factor of distance is considered upon the new basis, we may be sure that the Middle West will be supplied from cities like St. Louis and Chicago, where the conditions of manufacture, the cost of living and the rate of wages are at least on a par with Providence or Boston, while the lower freight cost to a growing population must confer a decisive advantage. * * * If the Commerce Court and the Supreme Court sustain the commission's ruling, our manufacturers are face to face with a condition which may mean the most extensive shift of the area of industrial production this country has ever seen.

No human mind or no aggregation of human minds is capable of predicting within lines of reasonableness the ultimate results of rulings by the Interstate Commission or by any other of the extraordinary accessories of government which have come into action at Washington in the past years. Material results are, however, of secondary importance to theorists responsible for the creation of governmental appendices hardly contemplated by the framers of the Constitution, but threatening to dominate the activities of one kind and another in the country and to make government under the Constitution a nullity. Be that as it may, the shifting of the area of industrial production in this country has been under way for a number of years in obedience to certain natural laws and in spite of artificial devices through legislation or other means to overcome those laws. The great Mississippi Valley is only beginning to realize upon its tremendous potentialities, but in that beginning have plainly appeared the facts of the future. Suggestion of the future is had in comparing recent industrial developments in two New England States with those in two States of the Mississippi Valley as in the following table:

Massachusetts.			
	1905.	1909.	Increase per cent.
Capital....	\$965,849,000	\$1,279,687,000	32
Products....	\$1,124,092,000	\$1,491,032,000	33
Employees.....	521,223	633,205	21
Illinois.			
	1905.	1909.	Increase per cent.
Capital....	\$975,845,000	\$1,547,301,000	59
Products....	\$1,410,342,000	\$1,918,321,000	36
Employees.....	433,967	543,467	25
Rhode Island.			
	1905.	1909.	Increase per cent.
Capital....	\$215,901,000	\$289,416,000	34
Products....	\$202,110,000	\$279,438,000	38
Employees.....	102,738	119,862	16
Missouri.			
	1905.	1909.	Increase per cent.
Capital....	\$379,368,000	\$442,847,000	17
Products....	\$439,549,000	\$572,085,000	30
Employees.....	150,286	177,323	17

Massachusetts is the leading manufacturing State of New England; Illinois is the leading one of the Missis-

Mississippi Valley. In 1900 the value of factory products in Illinois was only about \$214,000,000 greater than the value of like products in Massachusetts; in 1909 the difference in favor of Illinois was \$527,000,000. Between 1900 and 1909 the value of factory products increased from \$907,626,000 to \$1,491,032,000, or 64 per cent., in Massachusetts, and from \$1,120,868,000 to \$1,918,321,000, or 71 per cent., in Illinois. In the five years between 1904 and 1909 the rates of increase in capital invested in factories, in number of employees and in value of products were greater in Illinois than in Massachusetts. The increases were, in capital, from \$975,845,000 to \$1,547,301,000, or 59 per cent., in Illinois, and from \$985,949,000 to \$1,279,687,000, or 32 per cent., in Massachusetts; in number of employees from 433,857 to 543,467, or 25 per cent., in Illinois, and from 521,223 to 633,205, or 21 per cent., in Massachusetts, and in value of products from \$1,410,342,000 to \$1,918,321,000, or 36 per cent., in Illinois, and from \$1,124,692,000 to \$1,491,032,000, or 33 per cent., in Massachusetts. Whatever advantage Massachusetts may have had under old railroad conditions did not prevent Illinois from increasing the lead over it industrially.

Comparison of Rhode Island and Missouri, showing that, with the exception of the item of number of employees, the former had a greater rate of industrial increase than the latter in the five years, might indicate that the inferences to be drawn from the comparison of developments in the other two States have not general application. But it must be borne in mind that agricultural activities have been of greater weight in proportion to manufacturing in Missouri than in Illinois, and that, as between the two kinds of activities, manufacturing is pre-eminent in Rhode Island. The better deduction to be drawn from the figures of Rhode Island factories is that they point to the final status of New England manufacturing, greater returns in products per dollar invested in factories. Of much longer manufacturing habit than the Mississippi Valley, New England moves constantly toward greater and greater refinements in industry. Moreover, New England's record of forehandedness, sagacity and ability to overcome drawbacks and to gain in the overcoming are guarantees that that section will work through whatever difficulties may be created by the Interstate Commerce Commission's rulings. It may be that the narrowing of the field for its products in the West will lead it to strengthen greatly, by means of coastwise shipping, its commercial ties in the South. New England has always been closely tied to the South in business interests. New England has furnished the bulk of textile machinery in the 800 cotton mills of this section, as it has furnished much machinery for almost every line of industry. Moreover, it is now, as in the past, a heavy buyer of Southern products, including cotton, lumber, iron and coal. There is room for profit to both sections in a large increase in trade between New England and the South.

DO YOU WANT MEN?

Manufacturers needing superintendents, draftsmen or other expert men have secured remarkably good results from advertising in our Classified Opportunities Department. A Florida concern which advertised for a draftsman who could do general work writes: "I have received more replies than I know what to do with. A second inser-

tion was therefore unnecessary." That is the usual result. Try it whenever you want to employ high-grade men.

ELECTRIC IRON-ORE FURNACES.

The use of electricity in the welding of metals and other processes of treatment has become established in the iron and steel industry, but the treatment of ores in electric blast furnaces is more or less in the experimental stage. The first official report of the experiments in the reduction of iron ore in the electric blast furnaces at Trollhatten, Sweden, has recently been made public by the Iron Institute of Sweden, which, with Government support, provided the funds to build a plant large enough to approximate ordinary commercial conditions in manufacture on a large scale. The total cost of the plant was approximately \$86,000. It is stated that the plant has been self-supporting for the eight months of operation, and that further improvements which are being considered will result in still greater economy in the production of a pure quality of pig-iron by the use of cheap hydro-electric energy. The rate for electric current which the Institute states will permit of the plant carrying on the work of reduction is \$10.72 per kilowatt year. It is thought that the greatest economy will result from the use of three-phase current. The results of the work have given 2.7 tons of pig-iron per horse-power per year, and it is expected to increase this to three tons, and possibly four tons. Unburnt limestone has been used, but it is believed that calcined limestone will prove more economical. The amount of charcoal used per ton of pig-iron produced averages about 800 pounds. The pig-iron is produced in about four hours after the current is turned on, and the quality is equal to that of the usual Swedish pig-iron.

According to a report from Consul Fuller at Gothenburg, Sweden, the results obtained from this experimental operation warrant the opinion that the question of the economically successful reduction of iron ore in the electric furnace by the use of cheap electric energy has been solved, and that the perfection of the methods for handling the gases to secure a more effective circulation will greatly better the results already obtained.

The increasing development of hydro-electric powers in the South, and in many cases in regions where iron ore is near at hand, suggest that the results of these experiments in electric reduction of ores should be noted to the end that this section may, as soon as practicable, make a test of smelting where cheap hydro-electric energy is obtainable, close to the great ore beds of the South.

THE COTTON MOVEMENT.

In his report for July 28 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 331 days of the present season was 11,529,631 bales, an increase over the same period last year of 1,231,121 bales. The net exports were 7,411,902 bales, an increase of 1,497,622 bales. The takings were, by Northern spinners, 1,998,820 bales, a decrease of 52,689 bales; by Southern spinners, 2,141,172 bales, a decrease of 104,113 bales.

During the year ended June 30 expenditures for improvements in Chattanooga aggregated \$1,600,000, of which \$788,940 represented 58 new business houses and \$358,530, 189 other buildings.

Great Development Forces Struggling for Strategic Position.

FULFILLING PREDICTIONS OF TWENTY-FIVE YEARS AGO

Gigantic forces, financial, railroad and industrial, are now being concentrated in Eastern Kentucky and Southwestern Virginia, where vast coal operations are under way, where railroads are struggling for strategic position, and where great systems like the Louisville & Nashville and the Baltimore & Ohio and others are actively building into portions of that rich region.

In connection with these movements current reports say that the Chesapeake & Ohio Railway and the Seaboard Air Line are endeavoring to secure control of the Carolina, Clinchfield & Ohio Railway, in order to entrench themselves in that territory. In view of these facts, it may be interesting in a study of the situation to call attention to statements and predictions made by the MANUFACTURERS RECORD a quarter of a century ago about the great resources and the predestined future of that region. Concerning it Prof. William B. Rogers said to John J. Proctor, State Geologist of Kentucky and afterwards president of the United States Civil Service Commission, so the latter said many years ago in an interview published at the time in the MANUFACTURERS RECORD, that he thought the time was not far distant when the center of iron and steel manufacture in the United States would be located between Eastern Kentucky and Western North Carolina, and that a combination unequalled anywhere else was there to be found.

On July 31, 1886, the MANUFACTURERS RECORD, in a length editorial based on a report of the Eastern Kentucky coal field by one of its correspondents, said:

"The Elkhorn vein of coal of Eastern Kentucky, and which it is believed extends into Southern West Virginia, and the character of which has only recently been developed, is claimed to be the most valuable bed of coking coal in the United States. This bed has already been proven up over an area of 700 square miles, and shows much less percentage of ash—in some cases as low as 3 per cent.—and less sulphur and other deleterious properties, and is more compact in texture and of a stronger bearing surface in the furnace than the coke of Connellsville. Proofs and developments, such as these substantiate the prophecy of the late Prof. William B. Rogers of the Technological School of Boston, that in this territory will be hereafter found the seat of the great iron industry of the world. Other than the great wealth and possibilities of this region, as shown by the statements made, the canal coal of West Virginia and Kentucky is a factor of vast importance. Here, as nowhere else in the world as to quantity, is found this deposit, while in quality, with the exception of the very limited supply of the Bog Head coal of England—a coal so limited in supply as to be in no sense a competitor—is its equal to be found. The timber of this section of the country is superior in its character, and in West Virginia and Kentucky covers nine-tenths of the area. Here all the deciduous woods flourish in primeval growth and in certain restricted areas are found isolated patches of the soft pine and the hemlock. Here also is the present existing area of the black walnut, which, from its exhaustion, is yearly becoming more valuable. With

avenues of transportation open, immense quantities of timber, lumber, staves, hoops, oak bark, hemlock bark and other products of the forest would seek markets, and, by reason of its peculiar location, markets would be found in all directions for all its products."

The late Edward Atkinson of Boston, in a comprehensive article in the MANUFACTURERS RECORD 20 years ago, also referred to this region and adjacent territory as containing minerals and timber equal to those of Great Britain and France combined.

Gen. Thomas L. Rosser, the noted Confederate officer, who, after years of service as chief engineer of the Northern Pacific Railroad, returned to Virginia, wrote of this section:

"It is a region without a peer in wealth of timber, coal and iron ore."

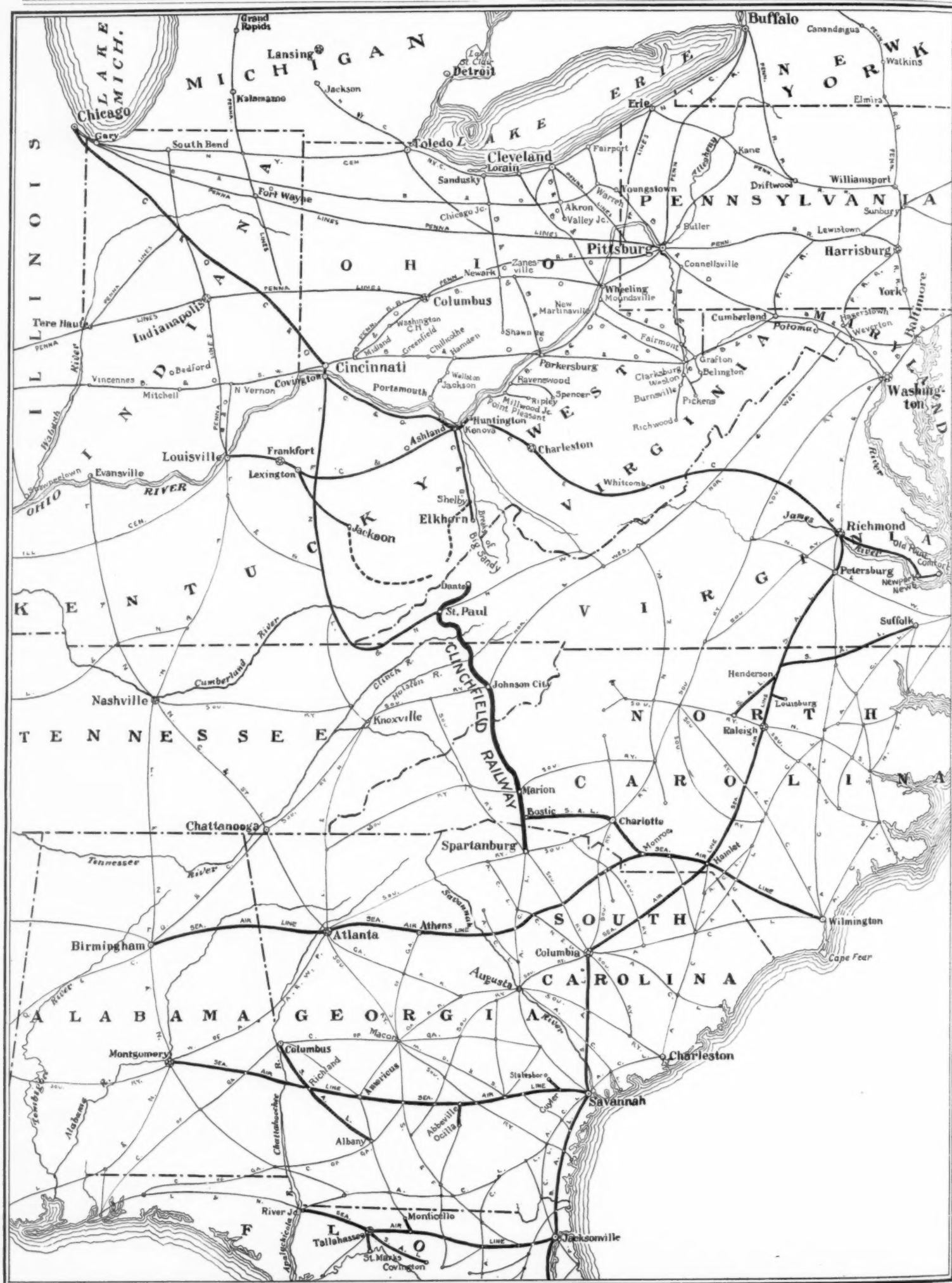
Gen. John T. Wilder, a well-known coal and iron expert, who projected the old Charleston, Cincinnati & Chicago Railroad, while on a horseback reconnaissance of this region in 1886, said to a member of the MANUFACTURERS RECORD staff who accompanied him:

"I have never seen or read of anything like it. God Almighty set his forces to work ages ago to create this tremendous upheaval. Volcanoes and earthquakes were the mighty agencies employed to lift these vast masses of carbon from subterranean depths and fasten them in their places high above the valleys until they were needed."

These impressive comments upon the marvelous natural riches of the Eastern Kentucky and Southwestern Virginia section were elicited in connection with the then proposed Charleston, Cincinnati & Chicago Railroad, portions of which abandoned line are now included in the Clinchfield road that the Chesapeake & Ohio and the Seaboard are now said to be trying to secure. The northern terminus of the Clinchfield route is at Dante, Va., with a 12-mile branch, known as the Dumps Creek line, from St. Paul to Hurricane. It has long been proposed to extend from Dante to Elkhorn City, Ky., and connect there with the Big Sandy division of the Chesapeake & Ohio Railway, but the route lies through very difficult country for railroad construction, and the plan has hesitated, although surveys have been made. An officer of the road said that the building of the Elkhorn extension would require as heavy work as any on the southern part of the line, which crosses the mountains amid the peaks of the Blue Ridge in North Carolina to Spartanburg, in South Carolina, whence it has been contemplated to extend to Columbia and Charleston. At Bostic, N. C., connection is made with the Seaboard Air Line. The connections at Spartanburg are with the Southern Railway and the Atlantic Coast Line.

With reference to the reports that the Clinchfield line would change hands and be extended to Elkhorn City, a correspondent of the MANUFACTURERS RECORD familiar with all that region, assuming that the deal will be closed (although that is not yet definitely assured), writes:

"At a cost of approximately \$100,000,000 and an expenditure of human energy, vitality and initiative seldom equaled, a new line of transportation between the



THIS MAP, WHICH REPRESENTS BY THE HEAVIEST LINE THE ROUTE OF THE CAROLINA, CLINCHFIELD & OHIO RAILWAY FROM DANTE, VA., TO SPARTANBURG, S. C., SHOWS THE STRATEGIC POSITION OF THE ROAD WITH RESPECT TO THE CHESAPEAKE & OHIO RAILWAY AND THE SEABOARD AIR LINE, WHICH ARE REPORTED NEGOTIATING TO SECURE CONTROL OF IT. THE CLINCHFIELD ROUTE ALREADY CONNECTS AT BOSTIC, N. C., WITH THE SEABOARD AIR LINE, BUT A CONNECTION WITH THE CHESAPEAKE & OHIO IS YET TO BE CONSTRUCTED, SURVEYS HAVING BEEN MADE FROM DANTE TO ELKHORN CITY, KY., THROUGH THE BREAKS OF THE BIG SANDY RIVER, A PASS IN THE MOUNTAINS WHICH OFFERS A PRACTICABLE ROUTE FOR THE EXTENSION. THE MAP ALSO SHOWS THE EXTENSION WHICH THE LOUISVILLE & NASHVILLE RAILROAD IS BUILDING FROM JACKSON, KY., INTO THE GREAT COAL FIELDS NEAR THE VIRGINIA BOUNDARY, AND THE RAILROAD WHICH THE CONSOLIDATION COAL CO. IS BUILDING FROM SHELBY, KY., ON THE CHESAPEAKE & OHIO, INTO THE SAME REGION, THESE ROADS BEING REPRESENTED BY DOTTED LINES. THE BALTIMORE & OHIO IS ASSOCIATED WITH THE COAL COMPANY IN THE CONSTRUCTION OF THE BRANCH FROM SHELBY.

North and the South is about to be completed. At last the contract will be let for the construction of the only gap in the line of the Carolina, Clinchfield & Ohio Railway, which is to be taken over jointly by the Chesapeake & Ohio and the Seaboard Air Line railways, and a new direct low-grade and first-class railroad will ere long be in operation connecting the rich and prosperous section lying between Chicago and Buffalo and the valleys of Virginia and Tennessee, the Carolinas, Georgia, Florida and Cuba. This new line crosses the heart of the Appalachian coal fields, where it reaches its greatest richness and purity in the Elkhorn field of Eastern Kentucky, and where forests of virgin timber remain.

"This new line means more to the South and to the North than does the Panama Canal. The traffic that will flow back and forth on the rails connecting in a direct north and south air line the Ohio River and the eastern slope of the Blue Ridge will be many times the volume that will pass the Panama Canal. The South has grown a new generation of men and women since the Civil War. Wealth has been accumulated, business ambition has been awakened and business methods have been learned, and now no part of the United States is coming forward faster than the South. It has something to sell to the North and the wherewithal to buy from the North. It offers the best opportunity left for the homeseeker looking for cheap land. It has a salubrious climate, beautiful landscapes and scenery, and practically unlimited natural resources.

"Such is the national importance of this new and singularly adequate highway of commerce that its completion should be the occasion of assembling at the ceremony of driving the last spike the President of the United States and the governors and delegates from the States of Florida, Georgia, North and South Carolina, Tennessee, Virginia, Kentucky, Ohio, Pennsylvania, New York, Indiana, Illinois and Michigan, the people of all of which will be chiefly served and benefited by this new trunk line.

"It is doubtful whether there is any single line of transportation in the land that will serve so large an area and so many millions of people. The wonder is, and always will be, that its completion was delayed so long. The undeveloped resources along the line are gigantic. First in importance is the Elkhorn, a big coal field, held by many to be the largest and the most valuable field of coking coal in the world. It is believed by competent judges of coal values that this field will produce \$1,000,000,000 of wealth. Edward J. Berwind and Clarence Watson, the coal kings of America, have, with their usual keenness of financial foresight, secured choice parts of this Eldorado. T. J. Mitchell, the Nestor and greatest of the Connellsville coke operators, has secured a foothold in the field, in connection with the Big Sandy Company, a concern with headquarters in Boston, whose alert and progressive president, Charles E. Hellier, after careful personal examination of the Elkhorn field, became convinced of its enormous value as a coking proposition, and has held to his knowledge with an intense and unflinching tenacity that finally conquered the doubts of all and enabled him to secure the building of the first section of the new trunk line, to wit, the Big Sandy division of the Chesapeake & Ohio Railway. The Big Sandy Company has always been managed with shrewdness and ability. It has availed itself of the best experts to be had, and it is to be presumed that it will make full use of the opportunity it has created and with large development with the result of its fore-

sight and hard pioneering work. The Chesapeake & Ohio Railway Co. will soon find it necessary to double-track the Big Sandy division, which will be the busiest part of its system. Messrs. Blair & Co. of New York and their associates, Thomas F. Ryan, Norman B. Ream, T. Jefferson Coolidge and others, will have the very great satisfaction of not only seeing their investment in the Clinchfield return substantial profits, but the even greater satisfaction of having furnished to their country one of the greatest arteries of commerce through which the very life blood of the nation will flow in ever-increasing volume. Many of the men who devoted their time and fortune to forcing a line of railroad through what has been heretofore one of the roughest and most inaccessible parts of the United States have passed away without seeing their hopes and dreams realized. A quarter of a century ago the MANUFACTURERS RECORD told of the great wealth of this Elkhorn section, and some of its readers may recall several graphic letters about the projected "Three Cs" Railroad from Charleston to Cincinnati and Chicago which were written by a correspondent, with Gen. John T. Winder, the projector of that line, 25 years ago."

The Carolina, Clinchfield & Ohio Railway, that is now the realization, at least in part, of the hopes and aims of those who projected the "Three Cs," extends 242 miles from Dante, Va., to Spartanburg, S. C. It includes about 68 miles of the old original route, operated and known as the Ohio River & Charleston Railroad, and afterwards as the South & Western Railway, besides considerable of once abandoned roadbed. It was while known as the South & Western that the construction over the big mountains was begun, and the later and present name of the road was not adopted for some time, or until after it became apparent that the road would have a north and west connection, making it a trunk line instead of being only to carry coal south from the Clinchfield region and distribute it. The builders spared neither money, time nor labor to obtain a grade of 26 feet per mile over the mountains, and the heavy trains which the Clinchfield's engines can haul east and south are testimony to the painstaking liberality of the men who built the great road. For it is a great line in conception, execution and operation, and although its advantages and benefits are as yet only partially available because its northern extension is yet to be finished, its future magnitude is plainly apparent, and to none more so than those who would secure its control.

While it has long been foreseen that the Clinchfield and the Chesapeake & Ohio would be connected via Elkhorn, with possibly closer relations than those possible under a traffic agreement, the great advantage of the Clinchfield to the Seaboard Air Line was seemingly overlooked by the public, notwithstanding that financiers in the one were also interested in the other. The Seaboard, it must be remembered, would be vitally interested in a control of the Clinchfield, because it would afford direct access to an inexhaustible supply of coal, the Seaboard being without any coal mines on its own lines excepting in Alabama, and it long ago began purchasing the Clinchfield coal, which for some time had to traverse other railroads to get to the Seaboard's coal chutes. It would be a splendid stroke for the Seaboard to have such vast coal mines upon practically its own system, and this was doubtless foreseen by the men who were willing to spend \$30,000,000 to \$40,000,000 to build a road less than 300 miles long.

The latest reports about the progress

of the deal say that negotiations are being continued, but that the cost of constructing the extension from Dante to Elkhorn and the method of taking care of the Clinchfield's securities are matters concerning which some time will be required to attain an agreement between all the parties to the transaction. A main problem with the extension is said to be that there is much doubt as to whether it could earn the interest upon the heavy investment that would be required to make it a low-grade road like the line through the Carolina mountains, and it has been intimated that if construction is agreed upon the extension will have some grades upon which helper engines will have to be employed. In view of the vast coal resources of that territory, and especially of the high grade of the Elkhorn coking coal, where millions are being expended upon development work and railroad construction, the certainty of an ever-increasing traffic would be assured for such a through line.

The accompanying map, showing the route of the Clinchfield road and its pro-

posed extension, together with the extension of the Louisville & Nashville Railroad and the Sandy Valley & Elkhorn Railway, which latter is the Consolidation Coal Co.'s line that the Baltimore & Ohio Railroad is interested in, reveals the great importance of and strategic position of the Clinchfield, especially if the projected extension is made, as it doubtless will be.

For many miles in almost every direction from these various roads as they center in Southwest Virginia and Eastern Kentucky lie extensive fields of coal, which are so situated in many instances that the fuel can be mined easily and with little expense as compared with the cost of getting out coal in some other regions. Merely as showing what this railroad combination will mean, if effected, and to emphasize that the vast railroad and mining operations now centering in that region are the exact fulfillment of predictions made a quarter of a century ago by the MANUFACTURERS RECORD, this story is told and illustrated with the accompanying map.

The Steel Corporation and the Southern Ore Supply--II

By EDWIN C. ECKEL, Consulting Engineer, Washington, D. C.

In the previously published section of this paper the relation between the Southern ore holdings of the United States Steel Corporation and the total Southern ore reserves has been considered, and on the basis of official statistics the conclusion was reached that the holdings of the Tennessee Coal, Iron & Railroad Co. were far from large enough to constitute even an approach to a monopoly of the Southern ores. In fact, making use of the official figures as noted, it was determined that this particular company controlled not over one-sixth of the Southern ore reserves.

In the present section the various ore regions will be considered in more detail, and the character of their ores briefly noted. In doing this, the data used will be drawn almost exclusively from the experience of the writer, since he has examined most of these districts personally either during his earlier work for the Geological Survey or during his later private work for individual companies.

The Holdings of the Independents.

Accepting as proven the conclusion that the United States Steel Corporation does not control, at the most, over one-sixth of the total Southern iron-ore supply, it is of interest to determine the character and distribution of the remaining five-sixths, and to get some approximate idea as to how they are held.

This can best be done by taking up in turn the 13 ore districts which were designated in the 1909 estimate of the Geological Survey.

1. Clinton Ores of the Birmingham District.—The Birmingham district, as that term is used in the reports of the Geological Survey, includes most of the red or Clinton ores of Alabama South of the latitude of Gadsden and Attalla. It is at present the most highly developed of the Southern ore districts, owing this distinction less to the grade of its ore than to other conditions, such as cheapness of mining, accessibility of coking coals, etc. In this district the bulk of the ore outcrop and of the high-level ores is held by six companies, though numerous smaller holdings exist and the deep-level ores are still largely in the hands of private owners. The companies named, in the approximate order of their holdings in this district, are Tennessee Coal, Iron & Railroad Co., Sloss-Sheffield Steel & Iron Co., Wood-

ward Iron Co., Republic Steel & Iron Co., Birmingham Iron Co. and Alabama Consolidated Coal & Iron Co. The four leading holders may account for four-fifths of the total high-level ores of the district.

2. Clinton Ores of the Chattanooga District.—This term has been given a broad significance, including not only the immediate Chattanooga region, but also all the red ores of Georgia, those of Northern Alabama (Attalla, Gadsden, etc.), and the bulk of the red ores of Tennessee. In this district the principal holders are the Tennessee Company, the Roane Iron Co., the Brown Mining Co., the Dayton Coal & Iron Co. Little definite can be said concerning the proportion of the total tonnage held by each of the companies operating in this district, but the 500,000,000 tons of ore credited to it by the Geological Survey is certainly divided up among many more holders than is the Birmingham supply.

3. Clinton Ores of Virginia and North Tennessee.—This area is marked by relatively slight development at Low Moor and Cumberland Gap, in Virginia, and by operations at Lafollette, Tenn. The total of 66,000,000 tons credited to it by the Geological Survey is split up among numerous small holders, and offers little inducements to large companies.

4. Clinton Ores of Kentucky and West Virginia.—This district is credited with a total of 45,000,000 tons in the Survey estimate. The West Virginia portion of this is extremely doubtful, from a commercial point of view, and the Kentucky portion would not justify any large development at present.

5. Specular Ores of the Ozark Region. In Missouri and Arkansas a series of scattered ore deposits occur, including some specular ores of high grade. The total tonnage is undoubtedly large, but present commercial conditions do not encourage its immediate development.

6. Specular Ores of Alabama, Georgia and Virginia.—In these three States, as well as in Tennessee, high-grade hematites are associated in places with rocks of approximately Cambrian age. The principal area is in Talladega county, Alabama, where extensive deposits of these "gray ores" have been proven up. Somewhat similar ores occurring in Virginia, Tennessee and Georgia are mined on only a small

scale at present. All of the ores of this group are exceptionally high in iron, as compared with red ores or even the average brown ore, and therefore may be expected to be of importance in the Southern trade. At present they are held by a number of small independent companies.

7. Magnetites of Virginia, North Carolina, etc.—This group includes a series of deposits which are still largely undeveloped. At two points—Cranberry, N. C., and in central Virginia—heavy tonnages have been proven up, and the total reserves of the district are very large. No concentration of ownership has occurred yet.

8. Carbonate Ores of Kentucky, etc.—Large total tonnages of carbonate ores exist in Kentucky, Tennessee and Alabama, but under present conditions no serious developments can be expected in this direction.

9. Brown Ores of Alabama, Georgia, etc.—This group includes all of the brown ores of Georgia and all of those of Alabama with the exception of the Russellville district, which is discussed in the next paragraph. Of these ores, the Tennessee, Woodward, Sloss, Republic and other large companies have large holdings in the Champion and Woodstock districts, while the Alabama Consolidated Coal & Iron is the principal single owner in Eastern Alabama and Georgia. But no single company controls any large fraction of the total tonnage of the group. It may be added that though the Woodstock district has been explored with some care, the Georgia and Eastern Alabama fields are really little known, so far as any precise tonnage estimates are concerned, and there are large areas here which may in future prove to be ore-bearing.

10. Brown Ores of West Tennessee.—This group includes not only the brown ores of Middle and West Tennessee, but those of the Russellville district of Alabama. As thus defined, it is one of the most important brown-ore districts of the United States, and the total of 25,000,000 tons credited to it by the Geological Survey is almost certainly very heavily underestimated. The district includes more promising but still undeveloped territory than any of the other brown-ore regions.

Several of the Alabama iron companies hold large tonnages in the Russellville region, while in Tennessee a few companies have developed properties. But the bulk of the district is still unprospected and in the hands of individual owners.

11. Brown Ores of Virginia, West Virginia and East Tennessee.—This group includes two very diverse sub-groups, which must be treated separately to avoid confusion.

The Oriskany ores of the Allegheny foothill region in Virginia and West Virginia are siliceous brown ores, occurring in fairly definite geologic position, and susceptible of very close tonnage estimates. The developed portion of this belt is largely owned by the Lowmoor, Allegheny, Goshen, Longdale and Princess iron companies. In several West Virginia counties, however, heavy tonnages are still in the hands of individual owners.

The second group of brown ores in this district are associated with Cambrian and lower Silurian rocks; they occur along the western slope of the Blue Ridge throughout Virginia and Tennessee, and in the limestone valley at its foot. These ores are, after washing, of high grade. So little intelligent exploration has been undertaken in this belt that no good tonnage estimates can be made. So far as acreage controlled is concerned, the Virginia Iron, Coal & Coke Co. is apparently the largest single owner, but no company owns any appreciable fraction of the total tonnage.

12. Brown Ores of Texas.—In the

northeastern counties of Texas there occur very extensive deposits of brown ore. These Texas ores will grade at least as high as the best of our eastern and southeastern brown ores, and there is no possible question as to the immense total tonnage that is in existence. Heretofore development has been retarded because none of the producers had sufficient capital to handle the operations in a large way, but this condition has lately changed. The Geological Survey estimate credits Texas with 780,000,000 tons of brown ore.

13. Brown Ores of the Ozark Region.—This includes a large total tonnage of brown ore scattered through a large number of separate deposits. On this account, further development of this field is likely to be long delayed.

The Possibilities of Development.

In the preceding sections of this article the main facts regarding the principal iron-ore districts of the South have been summarized briefly, special attention being paid to the ownership of the ores. From these facts it seems possible to draw certain conclusions as to the probability of independent developments in the Southern iron and steel industries.

It is obvious, for one thing, that though the Southern holdings of the United States Steel Corporation are very large in total tonnage, and are consequently very valuable, they do not begin to approach the character of a monopoly. Between 80 and 90 per cent. of the Southern iron ores are in the hands of entirely independent interests. It would be safe to go somewhat further and to say that at the present day at least one-third of the Southern ore reserves are not in the hands of iron companies of any kind, but are owned in larger and smaller tracts by farmers, lumber companies and all sorts of individual holders not connected with the iron business. This statement may be surprising, but when the conditions existing in Texas and West Virginia, and in certain parts of Tennessee, Georgia and Alabama are considered, it will be seen that in all probability a large proportion of the iron-ore tonnage of the future will ultimately be taken from lands which are not now in the control of any iron or steel company.

So far as the existing independent iron companies in the South are concerned, there are half a dozen or more of such companies which today control an ore supply adequate for their needs during the next 20 to 50 years. In at least one case an existing independent company has a supply of ore which at its present rate of iron production will last some 400 or 500 years. With conditions such as these, there is no obstacle in the way of development of a series of steel plants at various points in the South, which would be entirely independent of the United States Steel Corporation so far as their supplies of ore and coke were concerned. The steel industry of the South may be hampered by scarcity of labor, but the lack of local capital, or by the excess of political activity, but it will never be embarrassed by the scarcity of ore.

In the past there was a distinct feeling of doubt concerning the future of the Southern steel industry. This arose partly from the fact that little local capital was available in the iron-producing States, and that outside capital could not readily understand why these enterprises, if really promising, did not receive better support at home. This difficulty has been removed, partly through the increasing wealth of the South and partly because during late years the steel-making advantages of that section have come to be better appreciated abroad. It is probably fair to say that the acquisition of the Tennessee Coal, Iron & Railroad Co. by the original 1905 syndi-

cate was an important step in this process of attracting outside attention to Southern steel possibilities, and that its acquisition in 1907 by the United States Steel Corporation supplied the final evidence necessary for a doubting public. Previous to 1907 a few clever and far-sighted men had faith in the ultimate development of a great Southern steel industry. Since 1907 even the man in the street can realize how solid a foundation there was for that faith.

Ridiculous to Imply That the Steel Corporation Controls Southern Iron Ores.

University of Texas,
Bureau of Economic Geology and Technology.
Austin, Tex., July 27.

Editor Manufacturers Record:

If I am not too late to join in the discussion of the matter, I would like to have my say. Any statement that even appears to imply that the United States Steel Corporation controls the iron ores of the South is so far wide of the mark as to be ridiculous. It could be made only by a person wholly ignorant of the true condition of affairs. This corporation does not even control the iron ores of Alabama, to say nothing of Georgia, Virginia, Tennessee, North Carolina, Kentucky and Texas. It not only does not control such ores, it has shown no disposition to do so, so far as I am aware. I know personally that interests closely allied to this corporation had opportunities of acquiring large iron-ore holdings in Tennessee, and did not do so.

There are immense ore holdings in West Tennessee and West Kentucky that are not owned or controlled by any company in association with the United States Steel Corporation. There are very large holdings in East Texas which are not owned by anyone in connection with this corporation, nor likely to be.

The brown-ore districts of East and Northeast Texas occupy an area close to 17,000 square miles, and I do not think that the Corporation or any other large interest has acquired or is likely soon to acquire a small fraction of this territory. These ores are exceptionally adapted for the manufacture of basic pig, carrying from 0.10 to 0.25 per cent. of phosphorus, and they exist in such quantities as strain the imagination. I have knowledge of 800 pits, trenches, etc., that were made on one property of 50,000 acres in East Texas, and not one of them failed to show workable ore. This ore carries more than 50 per cent. of iron, and can be mined, washed (when necessary) and loaded for 85 cents to \$1 a ton. Shipments of this ore to the Birmingham district, about 45 cars, showed more than 57 per cent. of iron, with phosphorus from 0.10 to 0.15 per cent. The shipment of about 600 tons that went to Philadelphia in June, 1910, showed more than 57 per cent. of iron, and the phosphorus was not above 0.20 per cent. in any of it.

I do not know why statements to the effect that the iron ores of the South are controlled by the Corporation should be made. Hardly anything could be farther from the truth. It not only does not control them, it has, in many cases that have come to my personal knowledge, declined to buy property that was good and that was afterwards secured by others. I do not believe in shifting to the shoulders of any company or corporation things for which it is not responsible. I do not believe that any attempt has ever been made by any company or corporation to control the iron ores of the South, and I much doubt if the United States Steel Corporation owns in the South much greater areas than it acquired with the purchase of the Tennessee Coal, Iron & Railroad Co. The

Tennessee company certainly did not "control" the iron-ore situation, and such ore lands as the Corporation has acquired in the South since it purchased the Tennessee company represent a very small fraction of the iron-ore reserves in the Southern States. WM. B. PHILLIPS, Director.

At the 100-Foot Level Only in North Carolina.

North Carolina Geological and Economic Survey,
Chapel Hill, N. C., July 28.

Editor Manufacturers Record:

In regard to the iron ores of North Carolina, I have gone over the information that I have here at the office on iron ores, and estimated them as follows. Under "present supply" I have taken prices that existed eight years ago, when it was possible to work some of the ores, but which cannot now be worked on account of the low price of iron:

Magnetite.....	6,650,000 tons
Titanic magnetite.....	1,510,000 tons
Hematite.....	250,000 tons
Limonite.....	725,000 tons

The "future supply" of iron ores I have estimated as follows:

Magnetite.....	8,975,000 tons
Titanic magnetite.....	1,300,000 tons
Hematite.....	900,000 tons
Limonite.....	5,000,000 tons

In estimating the most of these figures, especially the "future supply," I have taken an arbitrary depth of 100 feet, but have not gone below this.

JOSEPH HYDE PRATT,

State Geologist.

Justice to the South, the Steel Corporation and Independent Furnaces.

University of Virginia,

University, Va., July 29.

Editor Manufacturers Record:

The symposium in the issue of the MANUFACTURERS RECORD of July 27, devoted to the question of the distribution of the iron resources of the South, with especial reference to the share owned by the Tennessee Coal, Iron & Railroad Co., will, I believe, attract wide attention. As a result I hope it will start a discussion which will shed so much light on the matter that eventually every aspect of the true situation will be thoroughly revealed. As an act of justice to the South and to the United States Steel Corporation, as well as to the independent furnace companies, this should be done, and so the MANUFACTURERS RECORD is to be congratulated on having inaugurated the discussion which, it is to be hoped, will bring out the pertinent facts in full detail. Also it is highly important, in order to be thoroughly convincing, that it be done in the right way, and by the right way I mean that the premises should accompany the various conclusions, so that it will be evident that they are not merely fortuitous opinions.

Moreover, the question of the distribution of tonnage should be confined to Alabama and Tennessee, possibly including Georgia also, for the tonnage of iron ore occurring in the other Southern States need hardly be considered, except incidentally, since obviously it is in Alabama primarily where the comparisons of the mineral resources of the different companies is of the most vital importance. Here the independent companies are brought into direct and active competition with the big United States Steel subsidiary, and all are operating under practically the same conditions. If the iron-ore resources of the whole South were included the symposium on this question would lose most of its value, for, to those that are advised well enough to know, it would be blaringly evident that such an argument proves too much or too little, depending on the point of view. On this basis it proves too much

in apparently showing how relatively unimportant are the holdings of the Tennessee company and too little in not clearly indicating its strength in this regard as compared with other companies operating and competing in the same district. In short, the discussion should be narrowed down to the proper limits.

The millions of tons of iron ore which are justly credited to the Southern States, as everyone that has had any experience with them knows, are not all of the same grade. Nor is this true anywhere, not even in the same district, although, in assembling statistics on the subject, such seems tacitly assumed nevertheless. In a discussion of the kind that you have inaugurated it is at once apparent, therefore, that some understanding should be reached at the outset as to what is meant by iron ore and what may be considered now available, and forecasting what may be considered available for some time in the future, say per decade for the next 50 years.

The average content of the commercial ores—those that are now being smelted—in the Birmingham district average in the neighborhood of 35 per cent. metallic iron. Because of their impurities, however, in which generally the bases exceed the acids sufficiently to require mixture with other ores (either limonites or gray ores, in which the contrary relationship holds, being suitable), they are more readily reduced, in view of this more intimate eutectic mixture, than would ever be the case if the same fluxing materials had to be added as separate portions of the furnace burden. In other words, the average grade of ore introduced into the Alabama furnaces—and we may term this the average available ore—carries about 35 per cent. metallic iron, but not quite enough silica and alumina on the one hand and lime on the other to be self-fluxing, and hence the furnace practice is that just indicated, and it would not be economical to change it, the Hon. A. O. Stanley, if he be correctly quoted, to the contrary notwithstanding. However, in many of the estimates of tonnage this question of availability is given, strange to say, scant consideration, and consequently, to swell the total, millions of tons are added which because of their low grade probably will not be available or brought into use before 50 or 75 years hence; provided, of course, if really there were such a tonnage of available ore as is claimed; and it might be added, too, if there were such a tonnage of ore adapted for use under present conditions, the appraisalment of a great many ore properties, now deemed exceedingly valuable, would have to be very greatly discounted. Or, to make the point even more emphatic, would it be fair to say that one company owning 50,000,000 tons of 35 per cent. ore owned, potentially, as much iron ore as another with 50,000,000 tons containing 50 per cent. metallic iron, the difference in quality representing ferric oxide replaced by matter non-ferruginous. The answer is in the negative, obviously, and hence it is absurd and inaccurate to add and compare tonnages of high and low-grade ore as if they possessed the same value. If the sum of the two furnished an average iron ore of a grade suitable for use under the economic conditions at present governing the iron industry there would be no objection, but such is not the case. And so I think that nothing further need be added to the argument to prove that this and other matters of fundamental importance, such as will occur to those that are sufficiently versed in the subject to enter into the discussion, should be thoroughly understood and serve as guides to keep the different contributions on the question within the proper channels,

which, if done, will lead to final conclusions of the greatest value.

J. SHARSHALL GRASTY.

The Opportunities at Chattanooga.

Bearing upon the statement as to alleged control of the Southern iron-ore resources, J. P. Winn, secretary Chamber of Commerce, Chattanooga, Tenn., writes to the MANUFACTURERS RECORD:

"We thank you very much for the opportunity to help refute the injurious statement. We objected to this statement upon general grounds, but particularly because we were afraid it might interfere with the arrangements of several of our iron-ore companies who are arranging to borrow or interest English capital to build blast furnaces and coke ovens. One of these deals contemplates also the erection of a steel mill, and should the negotiations prove successful this mill will certainly make those in the South 'sit up and take notice,' as their methods will be of the latest, and includes certain patents to produce special kinds of steel at a reduced cost.

"Chattanooga is unquestionably most favorably situated for the production of iron and steel, as our railroad facilities are very fine at present, and when the dam at Hales Bar is completed, which will be within two years' time, Chattanooga can ship her products by water to every leading city in the United States and Europe. A glance at the map will convince you of this.

"The Chattanooga Tennessee River Power Co., the Eastern Tennessee Power Co. and the Georgia Power Co. have arrangements to furnish Chattanooga with all the hydro-electric power that we can use. From the numerous queries we are having from factories and business houses located in all parts of the United States, we have every reason to believe that our industrial development during the next few years will be something remarkable. In addition to our advantageous geographical location, the electric power and raw material, our city is a delightful one to live in, with splendid schools, churches and places of amusement, and a system of parks in contemplation, prepared by Mr. John Nolan, that is attracting much attention. Our climate, too is another thing that attracts a great many people, and during the recent heated term, while the balance of the country was sweltering, Chattanooga managed to work during the day and sleep comfortably at night."

A Correction.

J. S. Stewart, of the mineral and forestry committee of the Appalachian Exposition, Knoxville, Tenn., writes to the MANUFACTURERS RECORD:

"We sincerely thank you and express our appreciation of the position that you have taken upon steel-making ores in the South, as contained in your issue of July 27. It gives us great pleasure to see that others hold the same position that we do in relation to the ores. It is hoped that these articles will bring forth enough publicity through the general press that will change public opinion in the country as to pig and steel ores. In our letter as published in the issue of July 27 it is made to read 'manganese ores are found in the Cranberry Quadrangle.' It should have read, and our copy said, 'magnetic ores.' Kindly have that corrected, if possible, and we will appreciate same."

Heavy Shipment of Iron Pipe.

A special train of 34 cars, loaded with cast-iron pipe made in Bessemer, Ala., by the United States Cast Iron Pipe Co., and bound for San Diego, Cal., pulled out of the yards of the Queen & Crescent on Saturday last. This big shipment is an excellent illustration of the increasing in-

dustrial development of the South which enables this section to send such product as iron pipe across the continent to California. It is not, however, the first shipment, by any means, that has been made by the same company to the Pacific Coast, though probably the largest special train loaded with pipe that has gone out of Alabama for the Pacific coast.

BIRMINGHAM IRON MARKET.

General Revision of Quotations on Prompt and Advanced Deliveries.
[Special Cor. Manufacturers Record.]

Birmingham, Ala., July 31.

The movement from local furnace yards continues at a rate in excess of the output, and stock reports of August 1 will no doubt show that a material reduction has been made in the aggregate accumulation. In at least two cases order-book requirements are now in excess of the probable output during the remainder of the third quarter and the stock available, and as a result those operators remain practically out of the market for the delivery mentioned rather than increase the active producing capacity. There has been a general revision of quotations both on prompt shipments and advanced deliveries, and, so far as can be ascertained, no tonnage has recently sold at lower figures than a basis of \$10.25 per ton at Birmingham. The confirmation of a sale of some 20,000 tons to a pipe manufacturing interest, which was mentioned in last report as unconfirmed, has had a decided tendency to strengthen the situation generally. The tonnage so far placed at the advanced quotations is very small comparatively, but the inquiry that has come forward is very gratifying. Of course, it remains to be seen to just what extent the trade has been provided for at the \$10 per ton Birmingham basis, yet the order-books of some of the leading interests are yet comparatively free of commitments for the fourth quarter, and practically no tonnage has been engaged for delivery at further advance. It is believed, however, that the furnace operators without exception will follow a very conservative course in making additions to the output until the status of general conditions is more nearly determined. Within the past week one furnace on foundry iron was blown out, and it is understood that basic metal will be produced when activities are resumed. There has been very little demand for this last-mentioned grade, and the Tennessee Coal, Iron & Railroad Co. is the only producer at this time. Of the furnaces being operated in this State, which are 17 in number, 12 stacks are producing foundry iron, four stacks are producing basic iron and one stack is being operated on charcoal iron.

The price for this last named is being held firmly at \$22.50 per ton at Birmingham for deliveries to cover the remainder of the year, with basic iron quoted at from \$10 to \$10.50 per ton at Birmingham. Revised quotations of foundry iron for prompt shipment or for deliveries covering the remainder of the year are: No. 1 soft and No. 1 foundry, \$10.72 to \$11.25; No. 2 soft and No. 2 foundry, \$10.25 to \$10.75; No. 4 foundry, \$9.25 to \$9.75, and gray forge at from \$9 to \$9.50, all f. o. b. Birmingham district furnaces.

A shipment of 33 carloads of standard water pipe was forwarded by the United States Cast Iron Pipe & Foundry Co. from its Bessemer (Ala.) plant in one solid train during the past week. The forwarding mentioned was a part of the requirement for the city of San Diego, Cal., and will be followed by other large shipments within the next 10 days. The movement from other plants during the week was very satisfactory, and the volume of

new business placed in the shape of small orders was attractive. With the placing of some 2500 to 3000 tons of water pipe by the city of Portland, Ore., on August 1, the requirement of 1500 tons for South Omaha, Neb., on which prices are now being submitted, and a round tonnage for requirement in the California oil fields, the producing capacity for standard water and gas pipe will be well provided for steady operation. There has been no change in the current quotations on the material just mentioned, and we quote that market as in a very satisfactory condition, with the following prices ruling per net ton f. o. b. cars here, viz.: Class "B," in 4-inch to 6-inch sizes, \$22; in 8-inch to 12-inch sizes, \$21, with over 12-inch sizes average \$20 per ton. Class "A," or gas pipe, is quoted at \$1 per advance over the price for class "B," and special fittings at from \$55 to \$60 per net ton.

The old material market is very quiet, with dealers unwilling to make concession in prices as an inducement for more extensive trading. Very little additional stock was put on yards during the past week, and the movement to consumers was probably smaller than that of the week previous. The active mill capacity has not increased, and without any announcement as to the date of a resumption of operations at one of the leading consumers, the industry does not present a very encouraging aspect. We do not revise dealers' asking prices, but can only continue to quote the market nominally as follows per gross ton f. o. b. cars here, viz.:

Old iron axles, standard, \$15.50 to \$16.
Old iron axles, small, \$12 to \$13.50.
Old steel axles, light, \$13 to \$13.50.
Old steel axles, standard, \$14 to \$14.50.
Old iron rails, \$13 to \$14.
No. 1 railroad wrought, \$11.50 to \$12.
No. 2 railroad wrought, \$8 to \$8.50.
No. 1 country, \$7 to \$7.50.
No. 2 country, \$6.50 to \$7.
No. 1 machinery, \$8.50 to \$9.
No. 1 steel, \$9 to \$9.50.
Standard car wheels, \$11 to \$11.50.
Tram car wheels, \$8 to \$8.50.
Light cast and stove plate, \$7 to \$7.50.
The Southern Iron & Steel Co. has blown out its furnace at Alabama City, Ala., for repairs. The steel mill of the Southern Iron & Steel Co. at Alabama City is still idle, without any definite announcement as to when operations will be resumed.

The Alice furnace of the Tennessee Coal, Iron & Railroad Co., which is in Birmingham, will be blown in on basic iron on the 18th of August. This will make a total of six furnaces being operated by the Tennessee company, of which four are in operation at Ensley, Ala., on basic iron, one at Bessemer, Ala., on foundry iron, and one Alice furnace on basic.

The charcoal iron furnace of the Shelby Iron Co. will not be relit until some time early in September, owing to the necessity of more extensive repairs than were originally contemplated.

Building Motor Cars South.

In view of the ever-increasing demand for automobiles in the South and the enormous amount of money that is being sent to other sections for automobiles and auto-trucks, it is interesting from time to time to note the establishment of automobile factories in the South. A new company is to be organized at Henderson, N. C., with a capital stock of \$250,000, by R. J. Corbitt to take over the Corbitt Automobile Co. and to erect building for an automobile plant. Mr. Corbitt writes that he expects to commence putting out 1912 models by October or November of this year, and that he expects the company to build 500 medium-priced machines.

COKE OVEN BY-PRODUCT PAINT.

A New Industry Created by the Maryland Steel Co.

Illustrating the possibilities of new industries by utilizing hitherto waste products, is the development of a paint-making enterprise by the Maryland Steel Co. in its coke-producing plant at Sparrows Point, Md. The by-product coke ovens installed at Sparrows Point several years ago are of the Otto Hoffman type, 200 in number. They use 1350 tons of bituminous coal per day and produce about 1000 tons of coke, 10,000 gallons of coal tar and a large volume of illuminating gas.

The coke is used in the furnaces of the company, the gas is piped to the city of Baltimore and the coal tar is pumped to tanks from which a part of it is shipped to other markets in tank steamers and a part is manufactured at Sparrows Point into the Cunningham protective coal-tar paint, that has just been placed on the market. In order to feed the gas to the pipe line it is pumped up to a pressure of 10 pounds per square inch by two large rotary pumps made by the Connorsville Blower Co., Connorsville, Ind., and is passed through a meter 20 feet in diameter by 18 feet in length that is said to be the largest in Maryland.

This Cunningham protective paint is a good example of the achievements of scientific research and experiment in the utilization of by-products and their application to practical purposes. This paint is the result of a long and exhaustive search for a satisfactory, durable, protective coating for the steel floating drydock at New Orleans when it was first located there several years ago. It was found by long testing that it would stand well under the severe conditions of moist air, salt water, abrasion and alternate wetting and drying. The officer in charge of the dock, Civil Engineer A. C. Cunningham, United States Navy, after experimenting with a variety of materials, evolved the principle on which the Cunningham protective paint is made. The formula was perfected by further experiments, and the paint when applied to the New Orleans dock fulfilled all the requirements. The Navy Department, attracted by this result, made extensive tests as to its durability and protective value, resulting in its adoption by that department, as well as other departments. The Panama Canal Commission, after thorough tests, adopted it and used it in the painting of metal roofs of over 2000 buildings along the line of the canal.

The results found in actual practice show its value as a protective paint on all iron, steel, galvanized iron, tin or other metal surfaces, such as bridges, cars, towers, tanks, smokestacks, ship plates, iron fences, wire fences and other wire construction, galvanized and tin roofs; also wooden barges, lighters, etc., concrete and brick walls, reinforced bars and metal in reinforced concrete.

This paint is used throughout the Maryland Steel Co.'s plant on the metal roofs and galvanized-iron walls of buildings, on cokes cars, blast furnace casing, blast furnace stoves, all smokestacks, steel vessels inside and outside. The vessels which bring ore to this plant from foreign ports after using this paint on the wearing decks and hulls, etc., always, it is said, lay in a supply for future use.

The base of the paint is a product of coal tar obtained by putting the tar as it comes from the by-product coke ovens through a process of refining it of the ammonia and otherwise neutralizing and eliminating all injurious elements. A combination of this base with other ingredients in proper proportions results in a paint remarkable for its adhesiveness, durability and wearing value. It is said

to be perfectly neutral as determined by careful chemical tests in process of manufacture, and can be applied to any surface.

Next to its value as a paint is its low cost, which will attract users of black paint for protective purposes. Another important claim for this paint is that it will prevent formation of rust on reinforcing bars when used with concrete, as it has strong tenacity for both the steel and concrete. A leading railroad company is using it for this purpose. It also has the advantage of good body; one gallon will cover 250 square feet of surface at the thickness recommended for use. It is either applied with a brush or sprayed on. The latter is the method used in painting coke and coal cars at Sparrows Point.

PURCHASING FUEL OIL.

General Specifications Adopted by the Government.

In consequence of the success that has attended the use of heating-value specifications in buying and selling coal, there has arisen a demand for similar specifications, based on careful tests, to govern the purchase of fuel oils and the refined products of petroleum. The Bureau of Mines has therefore issued Technical Paper No. 3, by Irving C. Allen, on "Specifications for the Purchase of Fuel Oil for the Government," with directions for sampling oil and natural gas.

"These specifications, to be satisfactory," says the author, "should establish not only the heating value of the oil, and thus show, like the specifications for coal, the number of heat units the purchaser obtains for a given price per unit quantity of fuel, but also the physical character of the oil, its flash point and burning point, and the quantity of extraneous matter it contains.

"It is evident that an essential feature of any such plan of purchasing oil in bulk is an equitable method of sampling deliveries—that is, a method that insures the taking of representative samples.

"The Bureau of Mines has received many inquiries from Government bureaus and from private concerns regarding fuel-oil specifications and the sampling of purchases. In reply to these inquiries the bureau issues this paper, which, although intended primarily for the guidance of Government officials, may be of service, the bureau trusts, to all persons who buy or sell fuel oil."

General specifications for the purchase of fuel oil are given as follows:

In determining the award of a contract, consideration will be given to the quality of the fuel offered by the bidders, as well as the price, and should it appear to be to the best interest of the Government to award a contract at a higher price than that named in the lowest bid or bids received, the contract will be so awarded.

Fuel oil should be either a natural homogeneous oil or a homogeneous residue from a natural oil; if the latter, all constituents having a low flash point should have been removed by distillation. It should not be composed of a light oil and a heavy residue mixed in such proportions as to give the density desired.

It should not have been distilled at a temperature high enough to burn it, nor at a temperature so high that flecks of carbonaceous matter began to separate.

It should not flash below 60 degrees C. (140 degrees F.) in a closed Abel-Pensky or Pensky-Martens tester.

Its specific gravity should range from 0.85 to 0.96 at 15 degrees C. (59 degrees F.). The oil should be rejected if its specific gravity is above 0.97 at that temperature.

It should be mobile, free from solid or semi-solid bodies, and should flow readily,

at ordinary atmospheric temperatures and under a head of one foot of oil, through a four-inch pipe 10 feet in length.

It should not congeal nor become too sluggish to flow at 0 degrees C. (32 degrees F.)

It should have a calorific value of not less than 10,000 calories per gram (18,000 British thermal units per pound), 10,250 calories to be the standard. A bonus is to be paid or a penalty deducted, according to the method stated under section 21, as the fuel oil delivered is above or below this standard.

It should be rejected if it contains more than 2 per cent. water.

It should be rejected if it contains more than 1 per cent. sulphur.

It should not contain more than a trace of sand, clay or dirt.

Each bidder must submit an accurate statement regarding the fuel oil he proposes to furnish. This statement should show the commercial name of the oil; the name or designation of the field from which the oil is obtained; whether the oil is a crude oil, a refinery residue or a distillate; the name and location of the refinery, if the oil has been refined at all.

The fuel oil is to be delivered f. o. b. cars or vessel, according to the manner of shipment, at such places, at such times, and in such quantities as may be required, during the fiscal year ending ———.

Should the contractor, for any reason, fail to comply with a written order to make delivery, the Government is to be at liberty to buy oil in the open market and charge against the contractor any excess of price, above the contract price, of the fuel oil so purchased.

Copies of this technical paper may be obtained by addressing the Director of the Bureau of Mines, Washington, D. C.

RALEIGH TO CHARLOTTE.

E. C. Duncan Given Option on Charter to Build an Air Line Railroad.

[Special Cor. Manufacturers Record.]

Raleigh, N. C., August 2.

E. Carl Duncan, a Raleigh banker, who was for some time one of the receivers of the Seaboard Air Line, is to build the Raleigh, Charlotte & Southern Railway, which will be practically an air line between this city and Charlotte, N. C. It will follow mostly the original survey of the North Carolina Railway, of which the State is the principal stockholder and which was built not long before the Civil War. It was planned to have that road very straight, but political influences caused it to make a wide detour and go far to the northward of the original route, and so it winds here and there between Goldsboro and Charlotte. It was to have passed through Chapel Hill, the seat of the State's university, but the then president of the institution did not want it anywhere in its vicinity.

The Raleigh, Charlotte & Southern will traverse the counties of Chatham, Wake, Randolph, Stanly and Mecklenburg, and much interest, not to say enthusiasm, is shown in the quick preparation for the line. It is said that the money is ready. Mr. Duncan is a very large stockholder in the Atlantic & North Carolina Railway, which is also chiefly owned by the State, and he says the road will be built. He has taken the franchise with this special contract. A good deal of the survey is already done. The road will pass by the great Whitney dam, on the Yadkin River, and it is quite possible that the completion of this great electric-power plant will be brought about by the construction of the road. The distance between Raleigh and Charlotte is about 150 miles at most, and the road traverses a region in which there are many factories,

some good towns, considerable timber and also minerals and water-powers.

FRED A. OLDS.

A dispatch from Greensboro, N. C., says that the incorporators of the Raleigh, Charlotte & Southern met here and organized with J. R. Ross of Ashboro, N. C., as temporary president, and W. L. Mann of Albemarle as temporary secretary. A committee was authorized to grant Mr. Duncan an option of four months to use the charter upon the condition that construction should begin within that time. Among others present at the meeting were L. A. Moody, S. H. Hearne and R. L. Smith of Albemarle, N. C.; B. Noal, Henry Noal, H. A. London and F. C. Williams of Pittsboro, N. C.; C. C. Crawford and D. B. McCarry of Ashboro, N. C.

SAND-LIME BRICK INDUSTRY.

Steady Growth in Manufacture of a New Building Material.

The sand-lime brick industry was in a prosperous condition during the year 1910, according to statistics compiled by Jefferson Middleton of the United States Geological Survey. These statistics also show a rapid development of the industry in recent years. The value of the production in 1910 was \$1,169,153, against \$1,150,580 in 1909 and only \$155,040 in 1903. Michigan led in 1910, as for several years, and reported products valued at \$240,649; this was a gain of \$22,423, or 10.28 per cent., over 1909. Michigan's output constituted about one-fifth of the total value of all sand-lime products in 1910. Minnesota, the second in rank, producing \$154,250 worth, was the State to show the largest increase over 1909—\$41,181, or 36.42 per cent. New York was third in output, Florida fourth and Pennsylvania fifth. Of the States for which totals are compiled by Mr. Middleton, Indiana showed the largest proportional gain, 93.70 per cent. Of these States, only two showed a decrease in value of the product, Iowa, \$16,941, or 35.14 per cent., and New York, \$1252, or 1.38 per cent.

The process of making sand-lime brick was invented in Germany, where it probably has had its greatest development. Observations made there seem to prove that sand-lime brick is a building material which will resist shining soot. Three years ago an inn was built in Greifenhagen, in which sand-lime brick was used for everything but the lining of the chimney flues, which were built of common brick because at that time the question whether sand-lime brick was equally resistant to fire had not been settled. In spite of the fact that lignite briquets were burned, shining soot was found in the flues in a short time, and the flue bricks were permeated as high as the rafters of the ground floor. When the flues were pulled down it was found, however, that the sand-lime brick were entirely unharmed and white in color, in spite of the fact that the brick walls were only about 4½ inches thick. If this experience is repeated elsewhere, it is stated, the fact will be established that sand-lime brick is the best building material to withstand shining soot.

A copy of Mr. Middleton's report may be obtained on application to the Director of the Geological Survey, Washington, D. C.

Steel Rail Sales.

[Special Dispatch to Manufacturers Record.]

New York, N. Y., August 2.

The Tennessee Coal, Iron & Railroad Co. sold during the week 12,600 tons of steel rails, the Illinois Steel Co. sold 13,700 tons, and the Carnegie Company 267 tons.

SIX MONTHS OF PIG-IRON.

Less Made This Year Than in Same Period of 1910.

The American Iron and Steel Association has received from the manufacturers complete statistics of the production of pig-iron in the United States in the first half of 1911, and presents the details in its *Bulletin* for August.

The production of all kinds of pig-iron in the first half of 1911, including spiegel-eisen, ferro-manganese, ferro-silicon, etc., amounted to 11,665,796 gross tons, against 12,324,829 tons in the last half of 1910 and 14,978,738 tons in the first half. The following table gives the half-yearly production since 1908:

Gross tons.	1908.	1909.	1910.	1911.
1st half.	6,918,004	11,022,346	14,978,738	11,665,796
2d half.	9,018,014	14,773,125	12,324,829	

Total.. 15,936,018 25,795,471 27,303,567

The decrease in production in the first half of 1911 as compared with the second half of 1910 was 659,033 tons, and as compared with the first half of 1910 it was 3,312,942 tons.

The production of Bessemer and low-phosphorus pig-iron in the first half of 1911 was 4,704,424 tons, against 4,921,759 tons in the last half of 1910, a decrease of 217,335 tons, and 6,323,883 tons in the first half of 1910. The production in the first half of 1911 includes 81,713 tons of low-phosphorus iron, against 140,611 tons in the last half of 1910 and 118,466 tons in the first half.

The production of basic pig-iron in the first half of 1911, not including charcoal of basic quality, was 3,935,487 tons, against 4,140,666 tons in the last half of 1910, a decrease of 205,179 tons, and 4,943,942 tons in the first half.

The production of charcoal pig-iron in the first half of 1911 was 160,847 tons, against 176,854 tons in the last half of 1910, a decrease of 16,007 tons, and 219,653 tons in the first half. A few tons of low-phosphorus pig-iron made with charcoal and electricity are included.

The production of spiegel-eisen and ferro-manganese in the first half of 1911 was 77,595 tons, against 93,484 tons in the last half of 1910 and 130,947 tons in the first half. The production of spiegel-eisen alone in the first half of 1911 was 43,429 tons, and of ferro-manganese alone the production was 34,166 tons.

The production of bituminous coal and coke pig-iron in the first six months of 1911 amounted to 11,355,722 tons, as compared with 11,875,632 tons in the last half of 1910; the production of anthracite and coke mixed in the first half of 1911 was 140,496 tons, against 256,622 tons in the last half of 1910; of anthracite alone the production was 8731 tons, against 15,721 tons in the last half of 1910; the production of charcoal iron is given above.

The whole number of furnaces in blast on June 30, 1911, was 212, against 206 on December 31, 1910, and 293 on June 30, 1910. The number of furnaces idle, including furnaces being rebuilt, on June 30, 1911, was 260, against 268 on December 31, 1910, and 180 on June 30, 1910.

During the first six months of 1911 the number of furnaces actually in blast during a part or the whole of the period was 296, against 332 in the last half of 1910 and 374 in the first half of that year.

On June 30, 1911, there were 14 entirely new furnaces in course of construction, all of which will use mineral fuel, as follows: New York, 2; Pennsylvania, 6; Ohio, 1; Indiana, 1; Illinois 2, and Minnesota, 2. One experimental "step" furnace was also being built in Michigan. In addition one furnace in Virginia was partly erected, but work had been suspended for several years.

On June 30, 1911, 6 old furnaces were

being rebuilt, all mineral fuel, as follows: New Jersey, 1; Maryland, 1; Virginia, 1; Alabama, 2, and Ohio, 1.

Comparison of six months' production by States is made in the following table:

States.	Production—Gross tons. (Includes spiegel-eisen, ferro-manganese, ferro-silicon, ferro-phosphorus, etc.)	
	First half of 1910.	Second half of 1910.
Massachusetts.	7,595	9,077
Connecticut.		6,424
New York.	1,017,951	920,456
New Jersey.	155,087	109,694
Pennsylvania.	6,065,688	5,206,635
Maryland.	170,708	155,506
Virginia.	244,275	200,701
Georgia.	6,725	8,000
Texas.		
Alabama.	1,012,545	926,692
West Virginia.	137,439	37,222
Kentucky.	46,520	53,989
Tennessee.	235,969	161,600
Ohio.	3,210,562	2,541,550
Illinois.	1,532,160	1,123,486
Indiana.	716,832	533,271
Michigan.		552,056
Wisconsin.		
Minnesota.	170,814	136,386
Missouri.		147,477
Colorado.		
Oregon.	227,958	200,654
Washington.		197,322
California.		
Total.	14,978,738	12,324,829

FOUR BIG IRRIGATION SYSTEMS.

They Will Require an Investment of \$19,000,000.

Referring to a dispatch stating that Dr. S. F. Pearson, president of the Mexico Northwestern Railway, New York, has arranged for three more Texas irrigation systems, Dr. Pearson's office wires to the *MANUFACTURERS RECORD*: "Unable to supply any information at this time."

The dispatch referred to is as follows:

"A deal involving control of 350,000 acres of land and other rights has been closed in which an English syndicate, headed by Dr. F. S. Pearson, will construct dams in three Texas rivers, the Guadalupe, the Frio and the Nueces, and build irrigating plants and canals for watering more than 500,000 acres.

"This project is in addition to the \$2,000,000 Medina River dam and irrigation deal. The three projects will represent an investment of nearly \$15,000,000. These three rivers extend through a large area of Western Texas, including Uvalde, Nueces, Frio, Edwards, Kinney and La Salle counties.

"The syndicate will open the lands to settlement and operate one of the largest cotton plantations in the world."

Referring to recent reports that he will irrigate a large acreage on Devils River, Judge D. B. Chapin of Brownsville, Tex., writes to the *MANUFACTURERS RECORD* as follows:

"My plan is to dam Devils River, raising the water 150 feet and tunneling four miles to a divide and constructing a gravity system of irrigation sufficient in capacity to irrigate 125,000 to 150,000 acres of land in the vicinity of Spofford, Tex. The surveys are not yet complete, and the cost is estimated at between \$3,000,000 and \$4,000,000. The engineer in charge is S. J. Rowe of San Antonio."

Southwestern Tax Valuations.

Tax assessors of Texas estimate that the 1911 assessed value of property in the State will be \$2,471,805,287, or an increase of \$83,305,163 over the value of 1910.

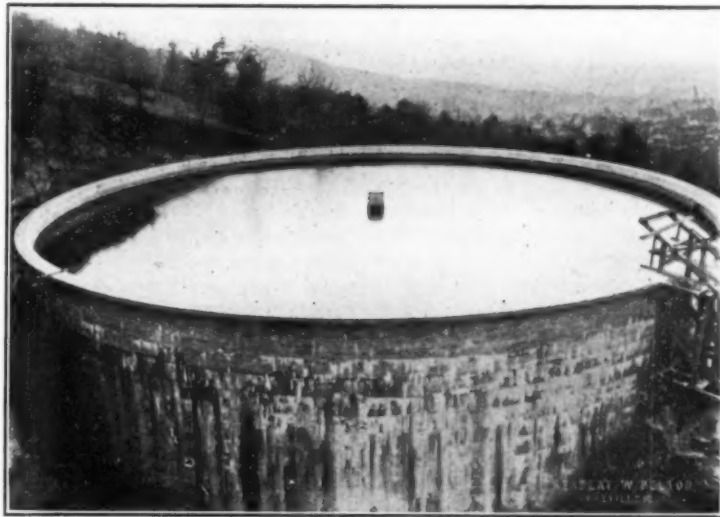
The 1911 returns by assessors in Louisiana aggregate \$531,268,802, an increase of \$3,494,852 over 1910.

The State Board of Equalization of Oklahoma, in an endeavor to bring all taxable property in the State up to a cash valuation, will increase the assessment this year over 1910 by \$250,000,000, making the total \$1,106,384,388.

It is estimated that \$2,750,000 are spent annually upon public roads in Missouri, having an aggregate length of 120,000 miles.

WHAT IS YOUR TOWN DOING?

The *MANUFACTURERS RECORD* will be glad to receive brief items of news about business conditions, opportunities for industrial enterprises and the projected establishment of enterprises in every town in the South. It seeks information of this kind from commercial and industrial organizations and from municipal authorities in every town and city of the South. This information is desired for publication without cost of any kind to the sender, and regardless of whether he is a subscriber or not. The *MANUFACTURERS RECORD* accepts no paid matter in its reading pages. This department is open only to news facts of interest to investors, homeseekers and manufacturers. Correspondents are requested to give their facts in as condensed form as possible, preferably not over 200 to 250 words. Lengthy letters cannot be published.



ASHEVILLE'S REINFORCED CONCRETE RESERVOIR.

The reinforced concrete reservoir, built to insure an auxiliary or emergency supply for the water system of Asheville, N. C., has a capacity of 5,000,000 gallons of water. The reservoir is 100 feet in diameter at the bottom and is 40 feet deep. The wall is three and one-half feet thick at the bottom and tapers to a thickness of eight inches at the top. The reservoir holds a quantity of water sufficient to last the city three or four days, during which could be repaired any break in the pipe line, nearly 20 miles long, to the intake in the mountains, from which Asheville is directly supplied with water. As originally constructed by an outside firm, the reservoir was not satisfactory, but has been brought to stand a thorough test and has just been accepted by the city after additional work which was done by Mr. George H. Davidson, a contractor of Asheville. He laid an entire new floor eight inches thick, using 900 barrels of Lehigh Portland cement, 20 tons of one-half-inch reinforcing steel, 500 yards of one-inch broken stone and three tons of Trus-Con waterproofing composition. Mr. Davidson's work cost \$11,000, bringing the total cost of the reservoir to about \$47,000. This information is given by Secretary N. Buckner of the Board of Trade of Asheville.

NORTON WANTS FACTORIES.

Board of Trade,

Norton, Va., July 25.

Editor *Manufacturers Record*:

The territory contiguous to Norton, containing 150,000 people, provides an excellent market, out of reach of any competition, for every article necessary to life. It also is in close competition with every part of the United States as a shipping point by reason of our unexcelled railroad facilities.

The contracts for \$700,000 to be spent on good roads in this (Wise) county, and for \$25,000 street improvements and sewers have just been let and are having their influence in attracting money and people, yet we lack a few things.

A furniture factory, a broom factory, any kind of a woodworking plant, an overall factory and a glove factory are among the most prominent.

We would like to show anyone the advantages of making these investments in Norton. S. H. WALTHALL, Secretary

FOR HOUSTON'S PROGRESS.

Chamber of Commerce,

Houston, Tex., July 28.

Editor *Manufacturers Record*:

With the same aggressiveness that the new administration took hold of the Chamber of Commerce, a working policy for the year has been evolved, which has been submitted to the board of directors and endorsed. The recommendations were in the form of a message from the president of the Chamber, E. A. Peden, submitted

at the July meeting of the board. Probably the more important part of the message was that dealing with the policy of attracting manufacturing industries. This matter was touched on at length and endorsed by the directors, decision as to the plan of action being deferred until several plans are investigated and presented. Features of the message were:

Considerably more than \$1,000,000 has been invested in good roads in Harris county. President Peden urged that while new roads are being constructed the Chamber of Commerce co-operate with the County Commissioners in following out a broad maintenance policy.

The proposed Red-River-to-the-Gulf highway was endorsed. It was estimated that there would be a net increase in the value of abutting property of over \$400,000,000 to the farmers along the road.

For street paving a broad policy was urged, either paving from the general fund or by bond issues, or, as a last resort, through the calling of a special election for the passage of a law compelling the abutting property-owners to pay their pro rata.

Endorsement was given the proposed Harris county demonstration farm, while it urged that every co-operation be extended the No-tsu-ch Association in staging the annual fall carnival in Houston this year.

The question of city planning was dealt with fully. Another recommendation urged an official visit in the near future

by the Chamber of Commerce to the Galveston Chamber of Commerce.

The factory matter recommendation was adopted as it was submitted. It was decided that this matter will require mature thought to be perfected at a later meeting. In this connection the message said: "As a manufacturing point Houston should be the greatest on the Gulf Coast, but we cannot accomplish this by merely advertising our advantages, investigating prospective factory propositions and giving them a letter of endorsement and sending them out to sell stock to our capitalists. * * * We must go further. We must weed out carefully the promoter who has a lot of second-hand machinery which he wishes to transfer to Houston from some other point where it has been a failure; but when a live, meritorious manufacturing enterprise wants to locate in Houston the Chamber of Commerce should see to it that they get the proper encouragement, including financial support.

JEROME H. FARRAR.

SHREVEPORT NUGGETS.

Chamber of Commerce,
Shreveport, La., July 29.

Editor Manufacturers Record:

Shreveport's population has increased from 16,000 in 1900 to 28,000 in 1910, and to 32,000 in 1911.

Bids have been asked for building a \$250,000 bridge over Red River, the third bridge.

One hundred thousand dollars' worth of bonds to build new steel buildings for the Louisiana State Fair at Shreveport have been voted. Buildings must be finished October 31.

Gas is being drilled for almost in Shreveport city limits.

An ice, water and electric-light plant is being built at Vivian, the oil-field city just north of Shreveport. The Caddo field is assuming more importance every week and is attracting international attention.

Godchaux Oil Co. incorporated to operate in Caddo field. Two hundred other companies now in field.

Two million dollars' worth of building will be done this season. One 10-story and two six-story steel buildings—Masonic home and Elks' home—are being built. Forty miles paving will be laid before fall.

SAN ANTONIO ALERT.

Publicity League,
San Antonio, Tex., July 29.

Editor Manufacturers Record:

To meet the demand for a manufacturing section of the city, the Chamber of Commerce is just now considering a proposition to purchase a tract of land suitable for various factory sites. With the assurance of natural gas—and the fact, too, that lignite coal is abundant here at less than \$2 per ton for factory purposes—much attention has been given to what manufactories are really needed here, and those making that investigation find excellent openings for the following: A cracker factory, knitting mill, hosiery mill, woolen mill, jean factory, cotton mill, shoe factory, canning factory, fertilizer plant, wallpaper factory. The raw material for all of these are here in abundance, and the territory contributory assures large consumption of the manufactured products.

Along with the general advance in business has come the continuation, with renewed energy, of that substantial building operation that has been going on here for the past four or five years. Just now 30 or more buildings are going up in the business district and in the side streets leading out from this. In the residence section many handsome homes are in

course of construction, several of them costing more than \$25,000 each. Building permits are in excess of those of the corresponding period last year, and everything indicates a rapid increase of building operations.

TOM M. MORGAN,
Secretary.

TO PROMOTE ENID INDUSTRIES.

Chamber of Commerce,
Enid, Okla., July 29.

Editor Manufacturers Record:

The Chamber of Commerce has recently organized the Enid Holding and Industrial Co. to promote industries in Enid. This organization has nine directors and nine stockholders, all of which serve without pay, including the officers, and immediately upon the organization of this company there was donated to it something like \$700,000 worth of real estate for the purpose of building our packing plant and other industries in certain localities in the city.

It is organized for 20 years and can operate in any part of the city where we desire to locate industries. You can see from this arrangement that we will create and have a very good start on a perpetual industrial fund, as our object is to start the packing plant, and as soon as we have it on its feet to dispose of it and use the money derived from its sale for the location of other industries, and this policy will be followed out in the workings of the Enid Holding & Industrial Co.

This is strictly a citizen company, with no individual profits in it for any man, their only object being to promote the industrial welfare of Enid.

We will be glad to encourage the location here by the taking of stock and give free sites to any reputable enterprise that we deem can thrive in this locality. We have every encouragement at the present time that we shall soon have an exceptional low manufacturing rate on natural gas, and this will only aid us in our industrial efforts.

J. M. BRANDT, Vice-President.

Detailed information about towns seeking manufacturing enterprises and offering specific advantages for development and business opportunities can be found under the head of "Classified Opportunities" on pages 94, 95, 96, and under "Cities, Towns and Railroads Inviting Factories" on pages 134, 135, 136, 137, 138; 139.

Compressed Air Pumps for Deep Wells.

The city of Sherman, Tex., has recently closed contracts for the purchase of machinery for pumping water from wells in connection with the water-works system by means of air compressors. The contracts were placed with the De La Vergne Machine Co., 1107 E. 138th street, New York, for one 180-horse-power type "FH" engine, and with the American-Diesel Engine Co. of St. Louis for one 170-horse-power Diesel engine. Each engine is to operate a 700-foot lift Ingersoll-Rand two-stage compressor and a small triplex pump, both pump and compressor to be operated by belt from the engines. This plant will attract widespread attention from the fact that there will be installed under similar working conditions two competing economical oil engines using low-grade crude and fuel oil.

Starch and Glucose.

In 1909 there were produced in the United States 637,227,000 pounds of corn starch, valued at \$15,808,000; 12,128,000 pounds of wheat and root starch, valued at \$623,000, and 26,583,000 pounds of potato starch, valued at \$926,000. The production of glucose in the same year amounted to 769,660,000 pounds, valued at \$17,923,000.

GOOD ROADS

For Improved Kentucky Highways.

[Special Correspondence Manufacturers Record.]

Louisville, Ky., July 29.

There are three topics which are getting concentrated public attention in Kentucky at present—good roads, tax reform and improvement of the educational system. The question of bettering the highways of the State is of more immediate importance, and is being more freely discussed even than either of the other two pressing and vital movements. The good-roads movement is far from new, but only within the past year has it succeeded in attaining the momentum which characterizes it now. The Kentucky Good Roads Association is probably the nucleus of the whole enterprise. It has been held together in a loose kind of way for several years, Joseph M. Bosworth of Middlesboro being president, and J. V. Backmann of Louisville, secretary. The most important single piece of work which has been accomplished thus far has been the approval by the people of an amendment of the State Constitution whereby the State may enact legislation which will permit it to assist the individual counties in the construction of their roads.

In addition to the work being done by the general body in the direction of legislation affecting the State at large, much is being accomplished by individual organizations, mostly local in character, which have in hand projects for the building or reconstruction of individual highways. Probably the most important of these, to which brief reference has been made in the MANUFACTURERS RECORD, has to do with the rebuilding of the old Louisville and Nashville pike.

Two associations have been organized. One is known as the Central Lincoln Road Association. It plans to build a road from Louisville to the Tennessee State line by way of the "upper" or Bardstown route. The counties which will be penetrated include Jefferson, Bullitt, Nelson, Larue, Hart, Barren and Allen. The highway which the association plans to build will pass through the Lincoln farm in Larue county, and will also include many historic points in other sections of the State, such as the residence of Stephen Collins Foster, author of "My Old Kentucky Home," in Nelson county.

This association set aside the week of July 31-August 5 as the time for the reconstruction of the road which has been designated, and which will pass through Mt. Washington, Bardstown, New Haven, Buffalo, Canmer, Hardyville, Bearwallow, Glasgow and Scottsville, in Kentucky, and through Gallatin, Tenn., into Nashville. Engineers have gone over the route and planned a system of drainage which will make for the permanence of the construction work. They were S. F. Crecilius and William Speed, both of Louisville. They were assisted in their work by W. W. James, a good-roads expert detailed by the Department of Agriculture at the request of Congressman Swagar Sherley of Louisville for the purpose of aiding in the construction of the road.

Local assistance all along the way has been provided for, and for the purpose of attending to the financial details connected with the work the following county chairmen were appointed: Jefferson, R. H. Edelen; Bullitt, F. O. Carrithers; Nelson, L. B. Samuels; Larue, Dr. J. C. Jones; Hart, J. A. McDaniel; Barren, J. C. Hutcherson, and Allen, Emory G. Dent.

A feature of the work of the organization has been the co-operation which has

been extended by Tennessee road builders, C. C. Gilbert, secretary of the Memphis-to-Bristol Highway Association, and Jas. Palmer of the Nashville Board of Trade attending many of the meetings which have been held and arranging for the continuation of the construction work from the State line south to Nashville. Officers of the Central Lincoln Roadway Association are Peter Lee Atherton of Louisville, president; William Henry Jones, Glasgow, vice-president, and E. C. Roy of Buechel, secretary and treasurer.

The other association having to do with the Louisville-Nashville project is the Lincoln Way Association, of which Sam P. Jones, a prominent banker of Louisville, is president; Harry S. Perkins, an officer of the Belknap Hardware & Manufacturing Co. of Louisville is vice-president, and Nicholas H. Dosker is secretary. The association has chosen the "lower" route, which it plans to improve through the reconstruction of the old Louisville & Nashville pike, this highway being followed almost exactly.

The counties which will be crossed by the road which is to be constructed by the association just referred to are Jefferson, Hardin, Larue, Barren, Hart and Simpson, which touches the Tennessee line. In each of these counties committees have been organized for the purpose of raising money for the construction work, and it has been noted that women in many cases have gone to work in this direction, realizing that they will be benefited as much as any of the other members of the family by putting the roads in good condition. The county chairmen having charge of the work of securing funds are John L. Helm, Jr., Hardin; J. W. Goodwin, Larue; S. S. Davis, Barren; Whit Thornberry, Hart, and W. B. Lewis, Simpson.

The Lincoln Way enthusiasts have two projects in addition to the main idea of rebuilding the Louisville and Nashville pike to the Tennessee line. One is the construction of a road to the Lincoln farm near Hodgenville, which will be built from Elizabethtown, and the other is the building of a highway worth while to the Mammoth Cave in Edmondson county. This will run from the main highway at Cave City over to the great cavern, which in recent years has been visited by relatively few people, partly because of the lack of publicity and partly because of poor transportation facilities.

Sam P. Jones, president of the Lincoln Way Association, has stated that the project which is being carried forward by that organization has resulted in movements being begun in both Indiana and Illinois for the building of connecting roads, the latter leading from the capital at Springfield, and that inasmuch as Tennessee will carry the highway forward to Nashville, the chances favor the ultimate realization of the idea of having a splendid Lakes-to-the-Gulf boulevard, which could be followed without interruption by motor cars as well as other vehicles.

No date has been set as yet for the building of the Lincoln Way, but it has been suggested that the "Iowa idea" be used and that the road be constructed in one day. Some date in August will probably be selected, but, of course, the preliminary work of getting the material, organizing the working force, etc., will have to be done first. However, as the old road was built by an expert engineer, and has an unsurpassed grade, all that will be neces-

sary will be the reconstruction of the surface, which should be a comparatively easy task. However, when it is remembered that the 1910 endurance run of the Louisville Automobile Club over part of this route had to be changed because the pathfinder found it impossible to proceed, it can be more readily realized that work is needed.

In view of the fact that the Lincoln Memorial at the birthplace of the president is to be dedicated October 14, according to plans which have recently been announced, the probable completion of the Lincoln Way is of greater interest. President Taft is to attend the dedication, and it has been proposed to organize a monster automobile parade to start from Louisville and go, accompanying the presidential party, over the rejuvenated Louisville and Nashville pike to Elizabethtown and thence to the "little model farm that raised a man."

One of the things which has made possible the immediate carrying out of plans for the Louisville and Nashville pike reconstruction is the final adoption of plans for the building of a bridge over Salt River between Jefferson and Hardin counties. This project was delayed for a long time because of the inability of those interested to agree as to the division of the expense, plans, etc., but only a few weeks ago a contract was let to the Capitol Construction Co. of Columbus, O., for the construction of the bridge, which will be 800 feet long and will be of steel, with concrete piers. It will cost \$50,000. The Lincoln Way will cross this bridge, although pending its completion a smaller structure will be used.

Those in Southern Kentucky who are interested in the rebuilding of the old roads which have fallen into decay and impassability have organized the Nashville-Mammoth Cave Highway Association. At a meeting held in Bowling Green Col. M. H. Crump was chosen president; J. R. Kirby, vice-president, and W. C. Sumpter, secretary and treasurer. The Nashville commercial organizations aided in the organization of this association, and will assist it in its work. It is stated that \$8000 has already been secured for the construction of the spur from Cave City to Mammoth Cave, this amount having been given as the estimated cost of the road, which will be eight miles long.

While the citizens of Central and Southern Kentucky have been in the center of the stage with regard to road-building, those of Southeastern Kentucky have also been at work, 10 counties in that section having joined in the organization of the Southeastern Kentucky Good Roads Association. The officers of this organization are N. R. Patterson, Pineville, president; Judge J. R. Stamper, Knox county, first vice-president; J. S. Forester, Harlan county, second vice-president; W. L. Moore, Whitley county, third vice-president; L. W. Bethurum, Rockcastle county, fourth vice-president; Mitch Begley, Laurel, fifth vice-president; Senator Thomas A. Combs, Fayette county, sixth vice-president; Miss Lena R. Rollins, Pineville, secretary; George H. Reese, Pineville, treasurer.

The southeastern association plans to interest the local courts in all the counties included in its district in the appropriation of adequate sums for road-building purposes. Showing the interest being taken in road-building in the mountain district, at Pineville a model road half a mile long was recently built, and this is being exhibited to show the possibilities of effort in this direction. The construction of a highway from Middlesboro to Big Stone Gap under Government supervision has also stimulated interest.

Though individual subscriptions are be-

ing made by many people in Kentucky for the purpose of building specific roads, the fiscal courts of the State have awakened to the importance of the subject and are making appropriations which are more in line with the scope of the work which they have to do.

The manufacturers of road-building equipment have done a lot of good work in interesting the county officers in the purchase of modern machinery and in the use of twentieth century methods in building. Besides selling fiscal courts road rollers, harrows and other equipment, they have placed machinery with contractors, whose success will depend upon securing enough road-building work to keep the equipment busy. Some of the counties which have purchased rollers, etc., include Shelby, Henry, Carroll, Kenton, Lawrence, Spencer, McCracken, Christian, Owen, Allen, Marion, Hardin and Washington.

Though "building roads which can be used by automobiles" has been the expression used in describing the kind of highways that are wanted, much more utilitarian objects will be served than giving tourists suitable routes through the State. In the eastern section the development of the coal and timber resources of the State depends largely on better roads to supplement the railroads which are now being pushed into the territory. In the western part the same is true, work in the flour-spar district having been hindered because of inadequate highways.

The good-roads movement is also linked closely with the enterprise for bettering the educational system of the State, since it is an old story that in districts with poor roads, where attendance upon the schools is obviously difficult, educational standards are usually low. Kentuckians now realize that building good roads will benefit the farmers, the city men, the children and the mothers, and they are going to build them. G. D. CRAIN, JR.

Texarkana to Dallas.

Board of Trade,

Texarkana, Ark.-Tex., July 24.

Editor Manufacturers Record:

The Texarkana Board of Trade is taking the initiative in having a good road or pike from Texarkana to Dallas, to join the proposed Red River to the Gulf good roads. The Texarkana-to-Dallas highway is to join this road at McKinney, Tex.

The following portions for the route are practically completed: Texarkana to New Boston is graded in gravel; New Boston to Dekalb, fair road; Dekalb to Avery, rough condition; Avery to Clarksville, fair; Clarksville to Detroit, good; Detroit to Paris, good; Paris to Bonham, good; Bonham to McKinney, in fact, to Dallas, is good, therefore shows what little work will have to be done to make this a regular pike.

Precinct No. 1, which is in Texarkana, voted \$250,000 for good roads last year, and have them diverged out of Texarkana in five different directions, which gives toward this highway 12 miles now completed. Lamar county has just voted \$300,000 in good-road bonds.

The Texarkana Board of Trade is receiving so many letters encouraging confidence in the plan to extend this highway to Little Rock and call it the Texarkana-Little Rock Highway.

There is a project now on foot to issue \$500,000 good-road bond issue in Miller county, Arkansas, which includes West Texarkana. This will practically build a good road from one end of Miller county to the extreme north end, and make Miller county, Arkansas, the best good-road county in the State.

At the last meeting of the Arkansas Legislature a bill was passed authorizing

the issuance of \$300,000 levy bonds to the Miller County Levy Improvement Association. This company, of which Dr. R. H. T. Mann is president, has now an engineering party on the ground making a preliminary survey as to the cost of the construction of this levy.

V. E. BURON, Secretary.

WEEK'S HIGHWAY RECORD.

Progress in Southern Road and Street Improvement.

[Full details of highway undertakings are given in the Construction Department.]

Bonds Voted.

Amarillo, Tex.—City voted \$10,000 bond issue for street paving.

Dallas, Tex.—Dallas county voted \$500,000 bond issue for road and bridge construction.

Follansbee, W. Va.—City voted \$17,000 bond issue for street paving.

Marlin, Tex.—City voted bond issue for street paving.

Bonds to Be Voted.

Coleman, Tex.—City votes August 12 on \$25,000 bond issue for street improvements.

Rogersville, Tenn.—Hawkins county votes August 19 on \$200,000 bond issue for grading, macadamizing and improving roads.

Contracts Awarded.

Altus, Okla.—City awarded contract at about \$162,000 for bitulithic paving.

Benwood, W. Va.—City awarded contract for street paving.

Bluefield, W. Va.—City awarded contract for grading and macadamizing.

Chattanooga, Tenn.—Hamilton county awarded contract at about \$75,000 for sheet asphalt construction.

Crowley, La.—City awarded contract for constructing four-foot cement sidewalk on 260 blocks; \$60,000 available.

Independence, Mo.—Jackson county awarded contract for ditching 16 miles of rock road.

Knoxville, Tenn.—Knoxville county awarded contract for road repairs costing \$8000.

Shreveport, La.—City awarded contract for brick, wood block, sheet asphalt, asphaltic concrete and concrete paving to cost nearly \$400,000.

Wise, Va.—Wise county awarded contract for constructing 10 miles of road.

Contracts to Be Awarded.

Alexandria, Va.—City will pave sections of four streets.

Cambridge, Md.—Dorchester county will construct two roads.

Ellisville, Miss.—Jones county receives bids until August 7 for constructing concrete sidewalks.

Kingston, Tenn.—Roane county will expend \$25,000 for road construction.

Knoxville, Tenn.—Road Commission will invite bids for resurfacing seven-mile road.

Longview, Tex.—City receives bids until August 11 for brick or creosoted wood block paving amounting to 17,000 square yards.

Louisville, Ky.—City opens bids August 8 for vitrified brick paving to cost about \$9500.

Morehead City, N. C.—Carteret Central Highway Co. was incorporated with \$25,000 capital stock.

Richmond, Va.—City received bids until August 2 for laying granolithic curbs and gutters in two cemeteries.

Tomkinsville, Ky.—Monroe county will construct eight-mile road, costing about \$25,000.

Waverly, Tenn.—Humphreys county appropriated \$25,000 to construct roads.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

ON THE "COTTON BELT."

St. Louis Southwestern Railway Enterprise in Extending and Improving Its Lines.

[Special Cor. Manufacturers Record.]

St. Louis, Mo., August 1.

With the completion of the extension from Gatesville to Comanche, in Texas, the St. Louis Southwestern Railway added 150 miles of new standard line to its system in the fiscal year ended June 30. In Texas the company provided 106.6 miles of new road for resourceful territory which lacked transportation facilities, and in Arkansas it furnished 43.66 additional miles to the rapidly-growing and prosperous rice belt.

The acquisition of the Stephenville North & South Texas Railway inaugurated the year's expansion operations in the Lone Star State. This short line ran from Stephenville south to Hamilton. Next an extension was built between Hamilton and Gatesville, then the terminus of the system, forming a through route from all points on the main line to Stephenville. The operation of trains between Waco and Stephenville via Hamilton was begun July 1, with double daily service.

The extension from Hamilton to Comanche was completed Saturday, July 15, and trains will be run over it in regular service early in August. Stephenville and Comanche are now the terminal points of the St. Louis Southwestern, instead of Gatesville, and a rich, undeveloped country gains needed transportation facilities.

The new road from Gatesville to Comanche via Hamilton, using part of the old line, is 68.74 miles long, and the Hamilton-Stephenville prolongation is 43.2 miles, making a total of 106.6 miles of new line in Texas. The extensions are laid with 56 and 60-pound rail, and the road-bed is superior. The whole construction is up to the very best modern ideas and methods, with wide embankments, permanent ballast, perfect track alignment and everything that goes to make a good, substantial railway. The roadway and all adjuncts of construction are in condition to admit of the laying of the heaviest rail, for dense traffic, at any time. The extensions will be well maintained, and the train service and equipment will accord with the highest standards in the Southwest.

After acquiring the Central Arkansas & Eastern Railway, a mere spur, only 9½ miles long, originally built by the Arkansas penitentiary to develop the timber lands, plans were outlined immediately for new work. The Central Arkansas & Eastern ran from England to McGregor, now called Gregor, both in Lonoke county.

The St. Louis Southwestern built an extension from Gregor to Stuttgart, and another from Rice Junction, about three miles north of Stuttgart northwardly to Hazen, bringing into realization new branch lines of 44 miles. The additional mileage is not only an extra facility, but a material encouragement to the Arkansas rice industry, which has assumed pretentious proportions in recent years.

As with the work in Texas, the company built the Arkansas lines in conformity with the latest standards. The entire layout is of such a reliable character as to enable quick improvements as the territory develops, and heavier rail will be laid as soon as the volume of traffic justifies. The construction is of a durable kind.

The St. Louis Southwestern has five branch lines in the Arkansas rice belt. One runs from Stuttgart to Gillett, another

from Stuttgart to England, another from Stuttgart via Rice Junction to Hazen, another from Rob Roy to Reydel and another from Altheimer to Argenta, which is, in fact, part of Little Rock.

More than 65,000 acres of rice land are in cultivation in Arkansas, where none was grown 10 years ago. It is estimated that only 10 per cent. of the Arkansas rice lands are in cultivation, and on this basis the area should in a few years reach 650,000 acres. The St. Louis Southwestern has practically a monopoly of the rice-growing district, as it has appreciated the requirements and voluntarily provided adequate accommodations. Eighty-five per cent., or approximately 552,500 acres, of the Arkansas rice lands are contiguous to the system's lines.

The present total length of the St. Louis Southwestern, including the extensions and acquisitions of the fiscal year just ended, exceeds 1700 miles. Texas leads with 840.03 miles, an increase of 106.6 miles, or approximately 15 per cent., and Arkansas is next, with 536 miles, an increase of 43.66 miles, or approximately 9 per cent. There are 168.66 miles in Missouri, 130.2 miles in Illinois and 38.3 in Louisiana.

INTERSTATE COMMERCE.

Annual Report Presents Interesting Figures Showing Gratifying Progress of Railroads.

A preliminary abstract of the twenty-third annual statistical report of the Interstate Commerce Commission, which covers the fiscal year ended June 30, 1910, has been issued, showing that on the date named there were 240,239 miles of railroads in the United States, not including second, third or fourth tracks, or sidings, yards, etc. This was an increase of 3605 miles as compared with the next preceding year. The number of railroads for which mileage will be included in the report is 2196. In addition to these there are 301 switching and terminal companies.

Equipment figures reveal that there were 58,947 locomotives, an increase of 1735, and 2,290,331 cars, an increase of 72,951. The engines were classified thus: 13,660 passenger, 34,992 freight, 9115 switching and 1180 not classified. The cars were classified thus: 47,095 passenger, 2,135,121 freight, 108,115 company service. Cars of firms or corporations other than railroad companies are not included. Very nearly all equipment is now fitted with train brakes and automatic couplers.

The number of railroad employees was 1,699,420, an increase of 196,597, and the total amount of wages and salaries paid was \$1,143,725,306. The total of employees of switching and terminal companies was 33,015, and the total amount of wages and salaries paid them was \$21,719,549.

The number of passengers carried during the year was 971,683,199, an increase of 80,210,774, and the passenger mileage was 32,338,496,329, an increase of 3,229,173,740. The freight carried was 1,849,900,101 tons, an increase of 293,340,360 tons, and the ton mileage was 255,016,910,451, an increase of 36,213,923,522. The average receipts per passenger per mile were 1.938 cents, and the average receipts per ton per mile were 0.753 cent. The average ratio of operating expenses to operating revenues was 66.29 per cent. Total operating revenues were \$2,750,667,435, and total operating expenses \$1,882,630,433, the former averaging \$11.607 and the latter \$7.691 per mile of line.

TERMINALS AT SOUTHPORT.

Wilmington, Brunswick & Southern Will Provide Coaling Facilities.

President Z. W. Whitehead of the Wilmington, Brunswick & Southern Railroad

Co., Wilmington, N. C., writes that it will "have adequate terminal facilities at Southport, one of the finest harbors on the coast, for coaling and other interests."

With reference to the statement that it was built by the Town Creek Railroad & Lumber Co., he says: "It is not in any sense a logging railroad, nor is it connected with any logging or milling interest. It is a standard gauge, public carrier railroad, chartered by the Legislature of North Carolina and laid with No. 1 56-pound rail, well ballasted and cross-tied with as fine yellow pine heart and black cypress ties as were ever laid on any railroad bed in the South."

"Instead of 28, it is 31 miles in length, and penetrates one of the richest timber, naval stores and agricultural districts in North Carolina. As an evidence of this fact there are 12 saw and planing mills and lumber concerns now running along the first 15 miles, and there will likely be as many more along the other 16 miles within the next year or so. There are also several naval stores operations along the line, with others to follow in the near future."

"It is the purpose of this company to continue this road on to Lockwood's Folly, Shallotte, Calibash and Little River, S. C., and possibly Charleston."

The Wilmington, Brunswick & Southern Railroad, as reported last week in the MANUFACTURERS RECORD, has been completed to Southport, and the official statement herein that coal-handling facilities will be provided there is especially interesting in view of the expectation prevailing for several years that the Seaboard Air Line, with which the road connects at Navassa, N. C., may handle large quantities of coal from the Clinchfield Railway to tidewater at Southport, a prime advantage of which, as a shipping point for ports farther south, lying in the fact that it is below Hatteras, and vessels loading there would not have to encounter the dangers of that well-known cape.

BUILD CONCRETE PIER.

Gulf, Florida & Alabama Railway to Let Contract Immediately.

The Gulf, Florida & Alabama Railway, which is to be built from Pensacola, Fla., to Jasper, Ala., 300 miles, is now completing the location for 100 miles from Pensacola to the Alabama River. Construction is in progress on the first 20 miles to give the first connector with the Southern States Lumber Co.'s road just west of Cantonment, Fla., on the Louisville & Nashville Railroad. R. C. Megargel, president, 5 Nassau street, New York, will award a contract next week for the pier at Pensacola. The company, he says, owns 1200 feet on the water front, and has purchased enough ground in the city limits to store 4000 cars. The present plans provide for three piers to dock about 15 vessels simultaneously. The piers are to be constructed of reinforced concrete.

The bond issue of the road is \$10,000,000, of which \$7,500,000 will be issued from time to time for construction and \$2,500,000 will be reserved for any improvements. The line will connect at Jasper with the Illinois Central and the Frisco systems, giving a shorter route by 150 miles, it is said, from Chicago to the Gulf. There are, it is claimed, over 300,000 people in the territory contiguous to the 300 miles of the company's land in Alabama, and the principal freights will be coal from the northern end of the State, cotton, naval stores and lumber.

The company, says President Megargel, has a right of way 100 feet wide into Pensacola all the way to the water front, with a branch of equal width to the passenger and freight station site fronting on

Garden street. There will be complete terminal tracks to the docks along the water.

FRISCO TO JACKSONVILLE?

Rumors That the System Will Get There Over Two Georgia Railroads.

It is rumored at Jacksonville, Fla., that the St. Louis & San Francisco Railroad, usually referred to as the Frisco system, and which reaches as far eastward as Birmingham, will secure a route via the Atlanta, Birmingham & Atlantic Railway and Waycross & Southern Railroad to Jacksonville. The Atlanta, Birmingham & Atlantic has been in the hands of receivers for some time, and its future has been more or less a matter of speculation in railroad talk. The Waycross & Southern is being built into the Okefenokee swamp from Waycross, Ga., and it is said an extension of about 40 miles would take it into Jacksonville.

Coupled with these rumors is another to the effect that the Frisco is interested in the Florida Railway, which is being built from Live Oak toward Jacksonville and Fernandina, Fla. Frank Drew of Live Oak, Fla., is president of the Florida Railway, and J. W. Oakford of Scranton, Pa., is president of the Waycross & Southern, which carries lumber for the Hebard Cypress Co. of Waycross.

Should it be true that the Frisco system is concerned in such a deal, connection would be made at Birmingham with the Atlanta, Birmingham & Atlantic Railroad, that connects at Waycross with the Waycross & Southern.

New Equipment, Rails, Etc.

The Atlantic Coast Line is reported getting prices on 900 steel underframe box cars, 100 steel underframe flat cars and 8 all-steel postal cars.

The Illinois Central Railroad is reported in the market for 2000 box cars.

The Missouri Pacific is having built at the St. Charles (Mo.) shops of the American Car & Foundry Co. of St. Louis 12 dining cars.

The Missouri Pacific is reported getting prices to build 2000 gondola cars, 500 flat cars, 17 postal cars and 18 baggage cars.

The Louisville (Ky.) Railway Co., it is reported, will purchase grooved rails to reconstruct tracks.

The Chicago, Burlington & Quincy Railway will, it is reported, build six switching locomotives at its own shops.

The Georgia Central of Georgia Railway, says a market report, has ordered 11,000 tons of rails from the Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

The Illinois Traction Co., says a report, has ordered 12 trail cars from the St. Louis Car Co.

The Chesapeake & Ohio Railway is reported getting bids to furnish about 2000 tons of bridge steel.

The Memphis Street Railway, Memphis, Tenn., is reported contemplating the purchase of 20 cars.

The Seaboard Air Line, it is reported, will purchase 1000 cars.

The Northern Texas Traction Co., Fort Worth, Tex., is reported to have ordered 10 double-truck cars from the Cincinnati Car Co. for city service.

The Pensacola Electric Co. is reported to have ordered four closed cars from the St. Louis Car Co.

The Pennsylvania Railroad is expected to be in the market for 3000 cars.

The Baltimore & Ohio Railroad, according to a current report, may purchase two electric locomotives.

American Cities Co. Organizes.

A report from New Orleans says that the American Cities Co., the new holding

corporation controlling the street railway and lighting properties in New Orleans, Birmingham, Memphis, Knoxville, Little Rock and Houston, has permanently organized with John J. Gannon of New Orleans chairman of the board; George H. Davis, resident member of the firm of Ford, Bacon & Davis of New York, president; George Bullock of New York and William von Phul of New Orleans, vice-presidents; Miss M. McGrath, secretary; R. E. Slade, treasurer and assistant secretary, and Ira Lockwood, assistant treasurer and assistant secretary, all of New Orleans.

May Be Interested in a Railway.

It is reported from Texas that the Western Union Securities Co. of Dallas will soon be incorporated under the State laws with paid-up capital of \$250,000, and that its object will be the underwriting and financing of various industrial enterprises and the placing of investments in Texas and the Southwest. It is intimated that this will be a holding corporation for the Trinity Valley Traction Co., which is working to build an interurban railway from Dallas to Palestine, Tex., and the incorporators are said to represent strong financial interests in Dallas and New York.

Maxton, Alma & Southbound.

C. J. Cottingham, general manager of the Maxton, Alma & Southbound Railroad Co., Alma, N. C., writes that the company has purchased the Alma Railway, which was operated by the Alma Lumber Co., and all of its railway holdings, including equipment. The road as bought ran from Alma to Midway, and it is being extended by the new owners 15 miles or more. The company is doing the work, and does not expect to let any of it. Neither is it expected to issue bonds. The line will be constructed as rapidly as possible with the materials at hand.

Birmingham & Northwestern.

Mike Harvey, chief engineer of the Birmingham & Northwestern Railway, Alamo, Tenn., reports that grading is 80 per cent. completed, and will all be done by August 15. Trestle construction will begin about that time, and tracklaying from the Jackson end about September 1. Contracts for depot buildings will be let now. It is planned to have the line in operation by October 1.

Railroad Notes.

The Ryan Construction Co. is reported to have completed the double-tracking of the Norfolk & Western Railway between Columbus, O., and Kenova, W. Va.

The stockholders of the Atlantic, Waycross & Northern Railway are reported to have authorized the issue of \$1,500,000 of stock and \$4,800,000 of bonds for the construction of its proposed line from St. Mary's to Atlanta, Ga., about 225 miles.

A report from Birmingham says that the Birmingham, Ensley & Bessemer Railroad has increased its authorized capital stock to \$4,500,000, the original amount having been only \$3000. There will be \$3,000,000 of common and \$1,500,000 of preferred. This is for the line called the Tidewater & Gulf, which is being built from East Lake through Birmingham to Bessemer.

Chairman Nat. T. Frame of the committee on markets and transportation of the West Virginia Horticultural Society, Martinsburg, estimates that the apple crop of the State this year will be more than 275,000 barrels.

TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the MANUFACTURERS RECORD. We shall be glad to have such matters at all times, and also to have any general discussion relating to cotton matters.

COTTON, HOSIERY, KNIT GOODS.

Statistics of Three Selected Industries for a Decade.

Washington, D. C., August 2.

Preliminary statistics for three selected industries in the United States, cotton goods, cotton small wares and hosiery and knit goods, based upon the returns for the censuses of 1909, 1904 and 1899, are contained in a comparative statement issued today by Census Director Durand. The figures for 1909 are preliminary, and subject to necessary revision later, but it is believed that there will be no material change in the percentages stated.

For cotton goods the capital invested in 1909 was \$808,287,938, as compared with \$605,100,154 in 1904, a gain of \$203,187,774, or 34 per cent. The gain from 1899 to 1904 in the capital invested in cotton goods was \$144,257,392, or 31 per cent.

The cost of materials used in the manufacture of cotton goods in 1909 was \$361,330,246, as compared with \$282,047,648 in 1904, a gain of \$79,282,598, or 28 per cent. The gain from 1899 to 1904 in the cost of materials used in this industry was \$108,606,258, or 63 per cent.

The amount of money paid out in wages in the manufacture of cotton goods in 1909 was \$129,768,088, as compared with \$94,377,696 in 1904, a gain of \$35,390,392, or 37.4 per cent. For the same industry the amount of money paid out for wages in 1899 was \$85,126,310, showing an increase in 1904 of \$9,251,386, or 11 per cent.

The value of products of manufactured cotton goods amounted to \$616,524,665 in 1909, as compared with \$442,451,218 in 1904, a gain of 39 per cent. The value of the products in this industry in 1899 amounted to \$332,806,156, showing a gain in 1904 over 1899 of \$109,645,062, or 33 per cent.

The average number of wage-earners employed in the manufacture of cotton goods in 1909 was 371,120, as compared with 310,458 in 1904, an increase of 60,662, or 20 per cent. In 1899 the average number of wage-earners employed was 297,929, the increase from 1899 to 1904 was 12,529, or 4 per cent.

In the average number of wage-earners there were 190,531 men 16 years of age and over employed in this industry in 1909, as compared with 145,718 in 1904, an increase of 44,813, or 31 per cent. The number of men 16 years of age and over employed in 1899 was 134,354, showing an increase from 1899 to 1904 of 11,364, or 9 per cent.

The number of women 16 years of age and over employed in the manufacture of cotton goods in 1909 was 141,728, as compared with 124,711 in 1904, an increase of 17,017, or 14 per cent. The increase from 1899 to 1904 of women 16 years of age and over was only 1002, or 1 per cent.

The total number of wage-earners, male and female, under 16 years of age employed in the manufacture of cotton goods was 38,861 in 1909, as compared with 40,029 in 1904. This shows a decrease in 1909 of 1168, or 3 per cent. In 1899 the number of wage-earners under 16 years of age was 39,866, showing a slight increase from 1899 to 1904 of 163, or about 0.4 per cent.

This industry in 1909 had a total capital investment of \$12,820,772, as compared with \$8,010,491 in 1904, showing an increase of \$4,810,281, or 60 per cent. The amount of capital invested in 1899 was \$6,397,385, showing an increase from 1899 to 1904 of \$1,613,106, or 25 per cent.

The total cost of materials used in the cotton small-ware industry in 1909 was \$6,942,774, as compared with \$4,207,655 in 1904, a gain of \$2,735,119, or 65 per cent. In 1899 the cost of materials used amounted to \$3,110,137, showing a gain from 1899 to 1904 of \$1,097,518, or 35 per cent.

The total wages paid out in this industry in 1909 amounted to \$3,069,422, as compared with \$1,828,100 in 1904, an increase of \$1,241,322, or 68 per cent. The amount of wages paid out in 1899 was \$1,563,442. The increase in 1904 over 1899 was \$264,658, or 17 per cent.

The total value of products of the cotton small-ware industry was \$13,174,111 in 1909, as compared with \$8,016,486 in 1904, a gain of \$5,157,625, or 64 per cent. The value of products in 1899 was \$6,394,164, the increase in 1904 thus being \$1,622,322, or 25 per cent.

The average number of wage-earners in this industry was 7698 in 1909, as compared with 5416 in 1904 and 4932 in 1899. The increase in 1909 over 1904 was 2282, or 42 per cent., and in 1904 over 1899, 484, or 10 per cent.

The men 16 years of age and over numbered 2553 for 1909, 1565 in 1904, and 1367 in 1899. The increases were 63 per cent. from 1904 to 1909, and 15 per cent. from 1899 to 1904.

The women 16 years of age and over numbered 4663 in 1909, as compared with 3452 in 1904, and with 3173 in 1899. The increases here show 35 per cent. from 1904 to 1909, and 9 per cent. from 1899 to 1904.

The total number of wage-earners under 16 years of age employed in this industry was 482 in 1909, as compared with 399 in 1904, an increase of 83, or 21 per cent. In 1899 there were 392 wage-earners under 16 years of age, or only 7 less than in 1904.

The total investment in this industry was \$162,854,787 in 1909, as compared with \$106,663,531 in 1904, an increase of \$56,191,256, or 53 per cent. The capital invested in 1899 was \$81,860,604, showing an increase in 1904 over 1899 of \$24,802,927, or 30 per cent.

The total cost of materials used in this industry amounted to \$109,223,860 in 1909, as compared with \$76,593,782 in 1904, an increase of \$32,630,078, or 43 per cent. The cost of materials used in 1899 was \$51,071,859. The increase in 1904 over 1899 was \$25,521,923, or 50 per cent.

The total amount paid out in wages in the hosiery and knit-goods industry in 1909 was \$38,271,743, as compared with \$31,536,024 in 1904, a gain of \$6,735,719, or 21 per cent. The amount paid out in wages in 1899 was \$24,358,627, the increase in 1904 over 1899 thus being 30 per cent.

The total value of products amounted to \$198,571,588 in 1909, as compared with \$136,558,139 in 1904, a gain of \$62,013,449, or 45 per cent. The value of products in 1899 was \$95,482,566, which was \$41,075,573 less than in 1904, the gain for 1904 over 1899 being 43 per cent.

The average number of wage-earners employed in the hosiery and knit-goods industry was 128,720 in 1909, as compared with 103,715 in 1904, an increase of 25,005, or 24 per cent. The increase in the number of wage-earners from 1899 to 1904 was 20,328, or 24 per cent.

There were 34,597 men 16 years of age and over employed in this industry in 1909, as compared with 25,167 in 1904, an increase of 9430, or 37.4 per cent. There

were 21,154 employed in 1899, the gain for 1904 over 1899 being 19 per cent.

The number of women 16 years of age and over employed in the manufacture of hosiery and knit goods was 83,564 in 1909, as compared with 68,867 in 1904, a gain of 14,697, or 21 per cent. The number employed in 1899 was 53,565, the increase for 1904 over 1899 being 15,302, or 29 per cent.

The number of wage-earners under 16 years of age was 10,559 in 1909, as compared with 9681 in 1904, an increase of 878, or 9.1 per cent. The increase from 1899 to 1904 was 12 per cent., the number employed in 1899 being 8668.

SUMMARY FOR SELECTED INDUSTRIES.

The comparative summary for 1899, 1904 and 1909 follows. The figures for 1909 are preliminary, and subject to change:

	Cotton goods.	Cotton small wares.	Hosiery and knit goods.
Year.			
1909	\$808,287,938	\$12,820,772	\$162,854,787
1904	605,100,154	8,010,491	106,663,531
1899	460,842,772	6,397,385	81,860,604
Cost of material used.....	361,330,246	6,942,774	109,223,860
1909	282,047,648	4,207,655	76,593,782
1904	173,441,390	3,110,137	51,071,859
1899	129,768,088	3,069,422	38,271,743
Wages.....	129,768,088	1,828,100	31,536,024
1909	85,126,310	1,563,442	24,358,627
1904	616,524,665	13,174,111	198,571,588
1909	442,451,218	8,016,486	136,558,139
1899	332,806,156	6,394,164	95,482,566
Average number of wage earners.....	371,120	7,698	128,720
1909	310,458	5,416	103,715
1904	297,929	4,932	83,867
1899	190,531	2,553	34,597
Men 16 years and over.....	145,718	1,565	25,167
1909	134,354	1,367	21,154
1904	141,728	4,663	83,564
1909	124,711	3,452	68,867
1899	123,709	3,173	53,565
1909	38,861	482	10,559
1904	40,029	399	9,681
1899	39,866	392	8,668

Altavista Cotton Mills.

R. L. Cumcock, general manager of the Altavista Cotton Mills, Altavista, Va., writes to the MANUFACTURERS RECORD as follows:

"We expect to have our buildings completed during the next 30 days. The building is an ordinary type of mill construction, and cost approximately \$80,000; number of spindles, 12,800; looms 350 (all fancies). We estimate the machinery will cost \$200,000, and it will be furnished by the following: Picking machinery from Potter & Johnston Machine Co., Pawtucket, R. I.; combers from Hetherington & Sons, England; drawing and fly-frame equipment from Woonsocket (R. I.) Machine & Press Co.; spinning from Fales & Jenks Machine Co., Pawtucket, R. I.; looms from Crompton & Knowles Loom Works, Worcester, Mass.. Will employ about 175 operatives. Will use steam power, about 600 horse-power."

Chatham Knitting Mill.

The Chatham Knitting Mill Co. of Durham has erected a one-story 33x125-foot frame building with metal roof, and installed a 15-horse-power gasoline engine capable of driving 100 knitting machines. This company is rebuilding its machinery and installing new equipment where necessary. It will experiment with several makes of knitting machines and place further orders. These improvements will rehabilitate the company's recently-burned plant.

To Enlarge Exposition Mill.

The Exposition Cotton Mills of Atlanta will build a large addition, and wires to the MANUFACTURERS RECORD as follows:

"Our plan is to install 10,000 additional spindles, with all necessary preparatory machinery and looms; will erect weave shed about 100x300 feet. Expect to close machinery contracts about August 15."

This company is now operating 56,000 ring spindles and 1512 looms on sheeting and shirting production.

Carr Knitting Mills.

The Carr Knitting Mills of Suffolk will be ready to begin manufacturing on August 5. This company was reported incorporated in June with an authorized capital of \$50,000. It has erected a 40x100-foot building costing \$3000, and installed 20 knitting machines driven by electricity, boiler for heating and pressing, etc. Seamless hosiery will be the product. J. O. Carr is the company's manager.

Ajax Waste Mills.

The Ajax Waste Mills of Dallas will rebuild plant recently burned. This company will erect a 40x200-foot brick (fire-proof) and a 40x120-foot galvanized-iron building costing \$7000, in which to install machinery for the manufacture of cotton waste. William Burr will own the buildings.

	Cotton goods.	Cotton small wares.	Hosiery and knit goods.
Year.			
1909	\$808,287,938	\$12,820,772	\$162,854,787
1904	605,100,154	8,010,491	106,663,531
1899	460,842,772	6,397,385	81,860,604
Cost of material used.....	361,330,246	6,942,774	109,223,860
1909	282,047,648	4,207,655	76,593,782
1904	173,441,390	3,110,137	51,071,859
1899	129,768,088	3,069,422	38,271,743
Wages.....	129,768,088	1,828,100	31,536,024
1909	85,126,310	1,563,442	24,358,627
1904	616,524,665	13,174,111	198,571,588
1909	442,451,218	8,016,486	136,558,139
1899	332,806,156	6,394,164	95,482,566
Average number of wage earners.....	371,120	7,698	128,720
1909	310,458	5,416	103,715
1904	297,929	4,932	83,867
1899	190,531	2,553	34,597
Men 16 years and over.....	145,718	1,565	25,167
1909	134,354	1,367	21,154
1904	141,728	4,663	83,564
1909	124,711	3,452	68,867
1899	123,709	3,173	53,565
1909	38,861	482	10,559
1904	40,029	399	9,681
1899	39,866	392	8,668

Mexican and Indian Drawn Work.

The Mexican & Indian Drawn Work Co. of El Paso is proceeding with the construction of its \$15,000 concrete building for plant reported in March. This company will employ Mexican and Indian hand workers of Mexican drawn work and sarapes and Indian blankets. It was organized with \$40,000 capital stock by Edgar D. Park (general manager), J. R. Daugherty, J. Hamlet and H. Casad.

Textile Industry for El Paso.

The American Exploration & Holding Co. of El Paso plans the organization of a stock company to erect a cotton spinning and weaving mill, a bleachery, a calico printing plant and possibly a silk mill. It is prepared to correspond with the manufacturers of the machinery for plants of that character.

Phoenix Waste Mill.

The Phoenix Waste Manufacturing Co. of Galveston has been chartered with \$40,000 capital stock by Leonard Joseph, Ben Sass and Jules Block. Mr. Joseph was reported in June as having purchased and to add new machinery to the Galveston Waste Mills.

Knoxville Spinning Co.

The Knoxville (Tenn.) Spinning Co. has been chartered with \$40,000 capital stock by E. G. Oates, T. A. Wright, L. G. Fisher and associates. This company was mentioned last week as installing equipment.

Building Inspector Beck of Richmond, Va., estimates that 21 per cent. of the building values in that city has been created in the past four years, the amount expended in that time being \$14,317,728.

The Henderson (N. C.) Cotton Mills has completed No. 2 mill building, and will soon have the machinery in position. There will be 8000 spindles driven by electricity.

MECHANICAL

The Electrical Specialist in Cotton Mills.*

The distribution of power electrically in cotton mills has been discussed so often, so intelligently and so thoroughly that I would not attempt to interest you in any generalities in that regard, but have gladly accepted your invitation to talk to you of some recent installations which have come under my personal notice. This is an age of specialties, and your association is strictly an association of specialists, as I understand it. The electrical specialist should bring to the mill a knowledge of the possibilities of electrical distribution of power and intelligently apply that knowledge to secure the best results from each separate cotton-working machine. Before the advent of the electric

tion could be made. I have, however, the record of test made 10 years ago, when a weaverroom was changed from unit, engine, to group drive, showing an increased production of 5 per cent. per loom and a power saving of 15 per cent. per unit of production due to elimination of heavy shafts and belts. In passing, it may be interesting to note a few tests illustrating the variation in loads in mill driven by large group motors:

Picker-room, load variation 35 per cent.
Cardroom, load variation 30 per cent.
Spinning-room, load variation 26 per cent.
Weaving-room, load variation 7 to 12 per cent.

These tests were made in a new well-managed mill during an average day's run.

About four years ago the perfection of group drive was reached in the four-frame drive for spinning frames. This has been used successfully in a large number of

exceedingly hardy construction and having almost as good characteristics as the large motors had been developed, and naturally the electrical specialist turned his attention to the individual machines. He soon learned from the specialists in the mills and from the specialists in the manufacture of the machine that certain limitations which had been generally accepted as inherent in the machines were really due to the method of driving. Small motors individually applied would eliminate these handicaps and permit the operation of each cotton-working machine in a manner best suited to its requirements and possibilities.

It seems almost incredible that we should have so long installed large motors to drive such high-speed machines as pickers, because it generally required a step-down from the motor to a line shaft, step-up from line shaft to counter and another step-up from counter to beater

spinning frames spinning No. 3 hosiery yarn. Referring to Fig. 5, it will be noted that the power drops slightly after the start, evidently due to the bearings warming up, then gradually increases as the bobbin is filled. The variation of the curve from a straight line is due to raising and lowering the ring rail, its value in a number of tests varying from one-quarter to one-third kilowatt.

Fig. 6 is interesting as showing the effect of allowing the ring rail to be choked with cotton, the power required increasing materially.

Fig. 7 portrays graphically the irregularity of the pull used in tying bands. Each spurt is due to tying a single band, the pull varying from one-half to two kilowatts.

This mill was built near an older mill owned by the same company and driven by a good Corliss engine unit drive. About a year after the electrical installation was

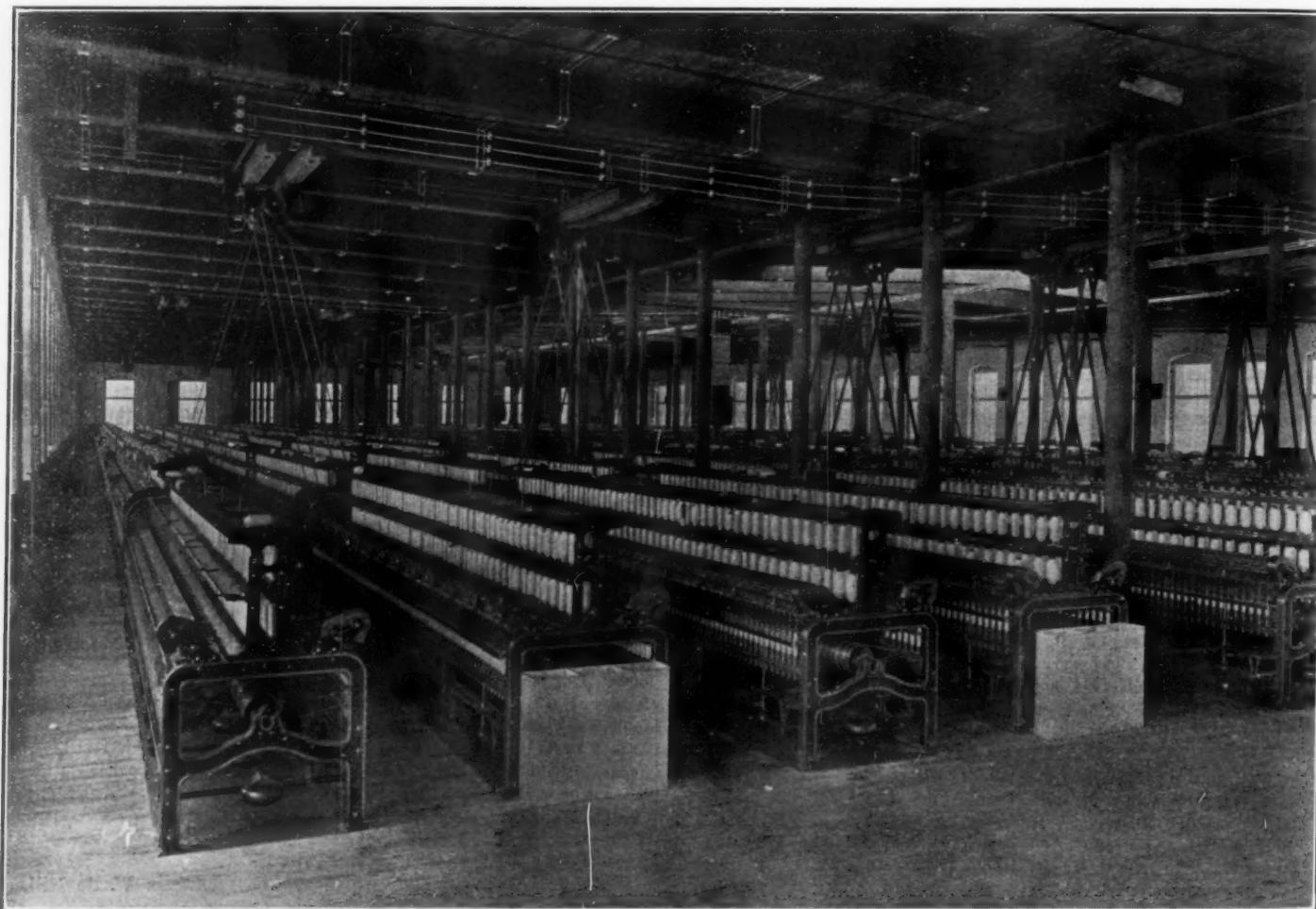


FIG. 1.—FOUR-FRAME MOTORS.

motor the only available method of power distribution was by shafting and belt or ropes, and it would therefore have been a waste of time to have investigated the possibilities of the various machines if operated under conditions not attainable. In the beginning of the era of electric driving in cotton mills small motors were prohibitive in size and cost and did not have very good characteristics, consequently large motors were generally used, the system being designated as group driving. I do not intend to tire you with many details of that system, which is so well-known to you all. It was a great improvement over the old system, which might be called the unit drive, whether from engine or water-wheel. Unfortunately, in the early days of group driving few comparative tests were made, and less published. In fact, in the beginning it was not thought that an increased produc-

mills both South and North. While it was a marked advance over all other group driving systems, it retained the worst element of the old spinning-room drive, which is the nearly vertical driving belt to the frame. There is some slippage in every belt, but much more in frame belts than most others, because they are small and it is impossible to keep lint off of them. Numerous tests show that the speed of a cylinder will often increase 3 per cent. immediately after cleaning a frame belt and will drop back again after one hour running. The irregularities of belts cause jerks, which are a prolific cause of broken ends and therefore limit the speed and production.

Fig. 1 shows a fair sample of this drive, with which no shafting is required in the spinning-room, and as the motors run at a higher speed than the cylinders, the belting condition is better than when driving from a shaft running at much slower speed than the cylinders.

By this time small motors of low cost,

shaft. The first commercial application of individual motors for driving pickers was made in 1908. The beater shafts, running at about 1500 R. P. M., permit the use of 1800 R. P. M. motors belted direct. The A frame and shaft being omitted. Fig. 2 shows view in group-driven picker-room, and Fig. 3 view in a picker-room using individual motors. I think no comment is necessary. This system is now largely used, and is praised everywhere. At doffing the power dropped about 1¼ kilowatts on the breaker, 2½ kilowatts on the intermediate and about 1 kilowatt on the finisher.

It is in the spinning-room that the greater part of the power is used, and it is in this room that the most interesting work has been done with individual motors. Mill L. R. was installed in 1908, with motor direct coupled to cylinder of each spinning frame and twister. Fig. 4 is general view in spinning-room. Figs. 5, 6 and 7 are graphic wattmeter charts, showing a complete doff on one of these

made they ran the two mills for one month, 25 days, on the same counts with the same superintendent and same staple cotton. The superintendent made a test on his own account without any outside help or advice, and reported the result as follows:

Both mills working No. 20 hosiery yarn, the belt-driven mill on single roving, the electrically-driven mill on double roving:

	Production	
	Spindles, in lbs.	per spindle.
Belt-driven mill.. 8208	81,549.44	9.935 lbs.
Electric mill, ind. motors..... 7680	87,154.60	11.35 lbs.

Showing 14.18 per cent. more production for the motor drive, or deducting 5 per cent. for the difference between single and double roving, a net gain of about 13½ per cent. This test was made in January, 1909. It is hardly necessary to say the owners are satisfied.

Mill A. K. was installed later in 1908, with precisely the same drive as at Mill

*A paper delivered by John P. Judge before the Southern Textile Association, Greenville, S. C., July 1, 1911.

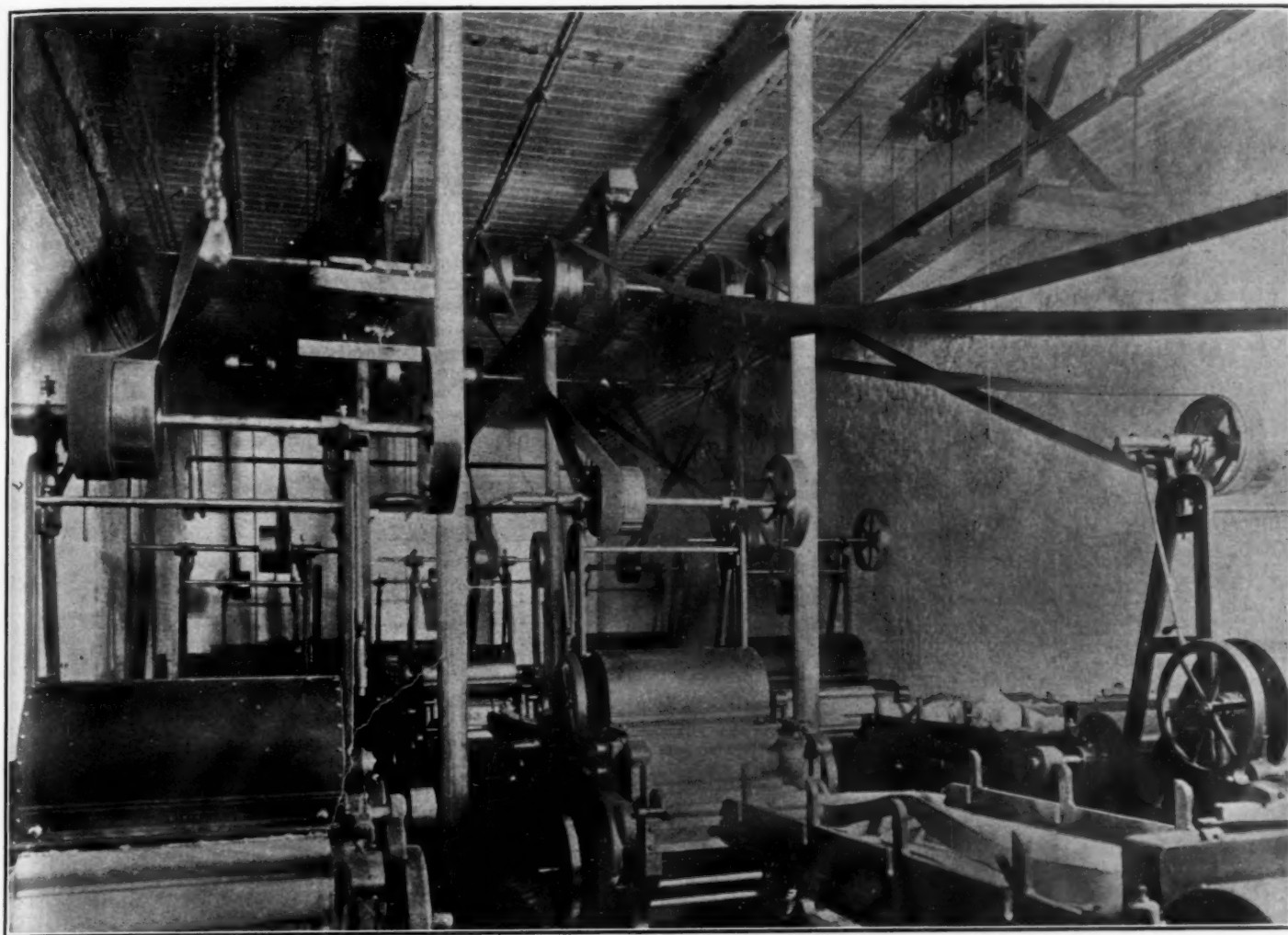


FIG. 2.—PICKER-ROOM BEFORE INSTALLATION OF INDIVIDUAL DRIVE.

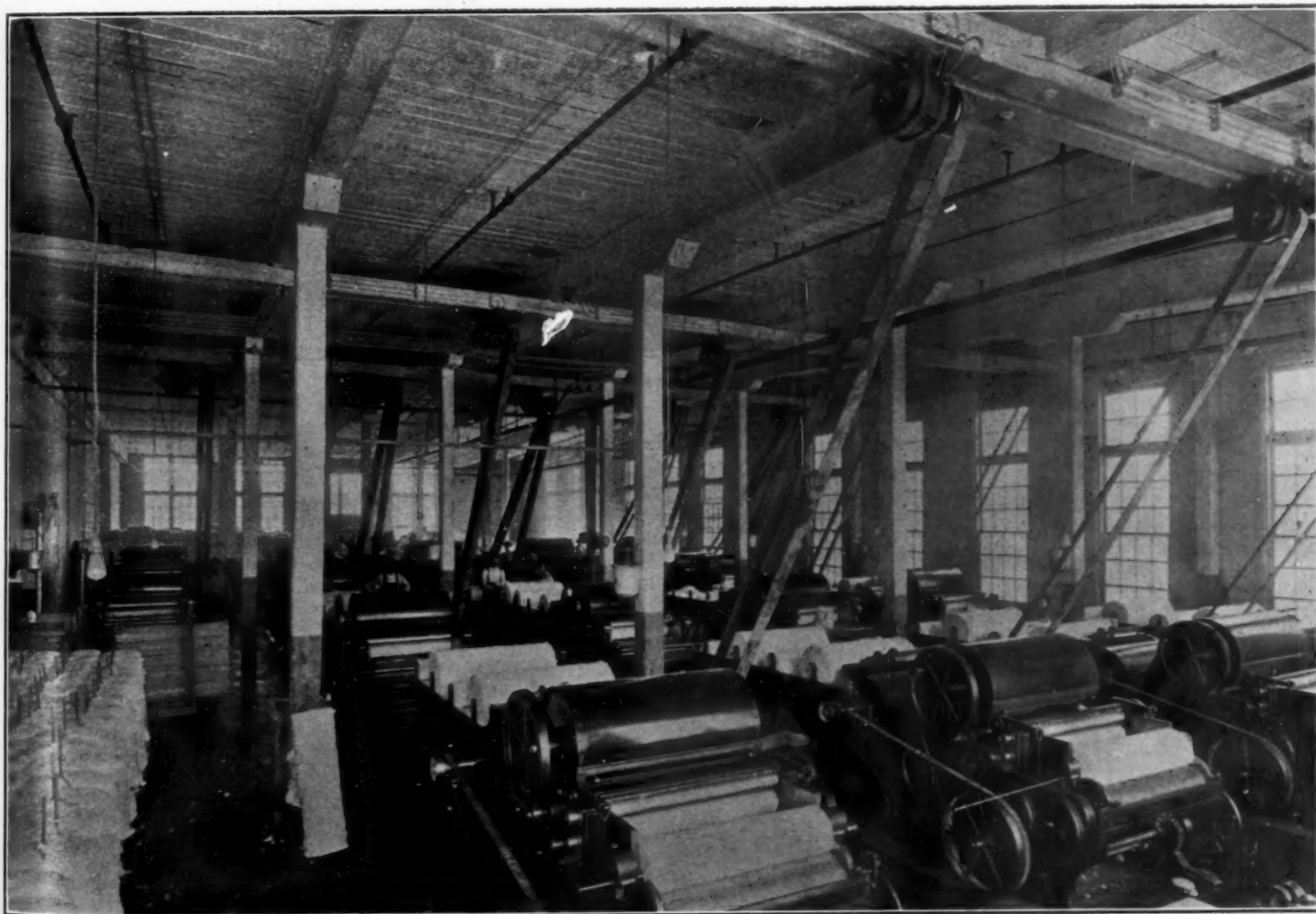


FIG. 3.—PICKER-ROOM, SHOWING MOTORS BELTED DIRECT TO BEATER SHAFTS.

L. R., the production being warp and filling.

In June, 1910, a series of tests were made comparing the spinning-room of this mill with similar room in a group-driven mill under the same management. The tests were made simultaneously so as to have the same weather conditions, and covered six consecutive days' run, both mills using the same make of frames, nearly the same counts, No. 21 and No. 22 warp yarn, and using the same grade of cotton. The tests were made by a competent engineer, and every detail was checked by the operating forces of the mills. We will refer to the group-driven mill as A. L.

The nearest approach to similar conditions required is to include in the test at mill A. K. 24 frames having 5760 spindles and making No. 21 warp yarn, and at mill A. L. 23 frames having 5152 spindles,

set run for a period of 63 H. 45 M., with a total of 5152 spindles, the production would have been 12,688 pounds of yarn. That is, in equal times and with the same total number of spindles in each case under conditions of operation that prevailed at these two mills, the individually driven frames produced 17.81 per cent. more yarn than those driven by the group method. None of the values given in the summary under heading "Power Data" for mill A. K. will be affected by these corrections except the "Total kilowatt hours for entire test." This value would be reduced to approximately 8320 kilowatt hours.

It will be noted from the table that the average pounds of yarn per spindle per day of 10 hours for the individually driven frames is 0.3862, while that for the group driven frames is 0.3278. This is

charges, such as interest, depreciation, insurance, taxes and general expenses, it is deemed fair to estimate that it is produced at the saving named below:

Cash Value of Increased Production.	
Estimated cost of this extra production if by group drive, at 4c. per lb. x 602,128.....	\$24,085 12
Deduct cost of extra power, 762,000 Kw. H., at 1c. per Kw. hr.....	7,620 00
Net gain due to individual drive..	\$18,465 12

It will be noted that the net gain in production is just about 11 per cent.; that the power required per pound of production increased about 11½ per cent., and that the total power used increased nearly 24 per cent. But it is apparent that the extra production is worth three or four times the cost of the extra power, and we are generally satisfied when we get three or four for one. It is believed the cash values given above are conservative, but

no considerable commercial installations of that system have been made in this country. Several experimental installations have been made, and Fig. 8 shows the results recently obtained in mill B. T., where a motor was connected to two spinning frames. The lower curve shows the front roll speed, which is varied an average of six revolutions in each half-cycle of the ring rail movement, and is also gradually increased as the doff proceeds from 138 to 172 R. P. M. The upper curve shows power increase from 5.2 horse-power to 9.7 horse-power. When this test was made comparison was made with two similar frames in same room driven by four-frame motor, and the individual drive showed production of 17 per cent. more than the other, with less ends down.

The relations between increased speed

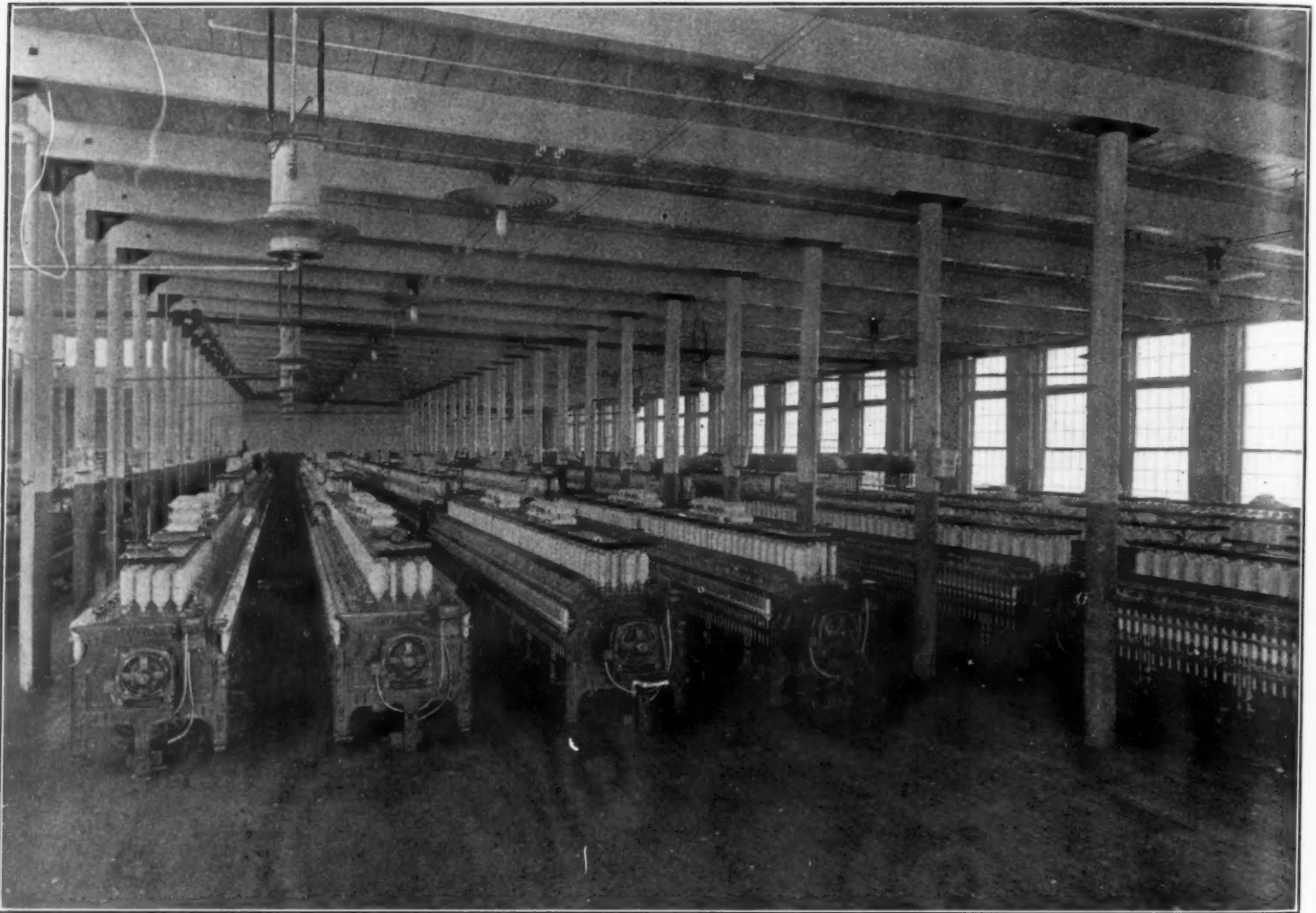


FIG. 4.—SPINNING-ROOM, WITH MOTOR DIRECT COUPLED TO CYLINDER OF EACH SPINNING FRAME AND TWISTER.

making No. 22 warp yarn. The tests showed the following:

Summary of Tests.

	Mill A. K. Indiv. drive.	Mill A. L. Group drive.
Total time of test...	65 h. 26 m.	63 h. 45 m.
Av. time per doff....	3 h. 51 m.	3 h. 59 m.
Total number of doffs.....	17	16
Total net wt. yarn spun (lbs.).....	14,559	10,769
Power Data:		
Total Kw. hrs. for entire test.....	9555	6340
Av. lbs. of yarn per Kw. hr.....	1.5237	1.6895
Av. Kw. hrs. per pound of yarn.....	0.6562	0.5887
Av. lbs. yarn per spindle per day of 10 hrs.....	0.3862	0.3278

All the values given in the table are those obtained from the tests with the frames in each set running under the usual conditions of operation. No corrections of any kind have been made. Taking the time and total number of spindles for comparison and correcting the production of the set of individually driven frames on this basis, it is found that had the latter

an increase in production per spindle of 17.81 per cent. in favor of the individually driven frames.

Making the corrections named, and assuming a mill of 50,000 spindles operating 312 days, 10 hours per day, we have the following:

	A. K.	A. L.	Difference.
Warp yarn.....	21	22	
Production lbs....	6,380,000	5,434,672	945,328
Frame makers' production table gives .022 lbs. per spindle per day of 10 hrs. more for 21 than for 22 yarn; therefore we deduct.....	343,200		343,200
	6,036,800	5,434,672	602,128

Power Data.	
Kw. hours per in.	.5562 .5887
Kw. hours for this production.	3,961,348 3,199,348 762,000

As this extra production is obtained without any additional labor cost for spinning, superintendence or overhead

they may be changed to actual conditions as you find them in each mill. No profit is included in these figures. If the mill should be so fortunate as to make a net profit of one cent per pound of yarn, it would add over \$6000 to the cash value of the increased production. The important item is the increased production per spindle, and I have only added the cash value figures to bring out more prominently the fact that production is what you run the mill for, and that the cost of power is relatively small. It is interesting to note that mill L. R. showed 13½ per cent. increased production over an engine-driven mill.

All of these installations are of constant-speed motors. You cotton-working specialists know that your spinning frames should be speeded up as the bobbins fill. This can only be done successfully by adjustable speed motors automatically controlled. A number of such installations have been made abroad, but

and power is interesting, but very much involved. One thing certain is that on all spinning frames and twisters the power curve rises faster than the speed curve, but extremely various results are obtained under different conditions. Mr. Sidney B. Paine plotted curve four years ago, which I believe was from tests on fine counts, showing that the power on the spinning frame increased 42 per cent. when spindle speed increased 25 per cent., and 17 per cent. more power with 11 per cent. increased spindle speed. In mill A. K. the relative values are 24 per cent. power increase for 11 per cent. speed increase, and in mill B. T. 86 per cent. more power when spindle speed increased 25 per cent.

Weaverroom.—In this department very little has yet been done in the direction of individual drive of cotton looms, the group drive being still almost exclusively used. Large numbers of silk and worsted looms are equipped with individual motors, and that system of driving is now practically

standard for silk mills. A contract has recently been closed, however, for a large cotton mill in Greenville, S. C., under which an individual motor will be applied to each loom. It is pretty certain that a

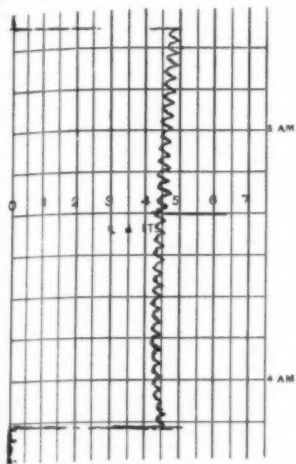


FIG. 5.

larger percentage of power is lost in transmission in weaverrooms than in any other department, and therefore it is quite likely that individual driving will prove as at-

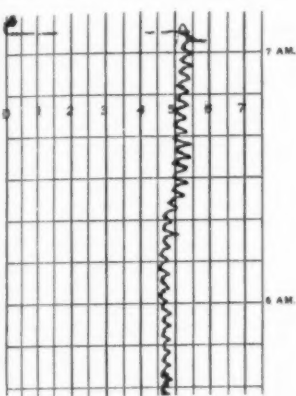


FIG. 6.

tractive in that department as in any other. In fact, there is reason to believe that the improvement in the quantity and quality of the product in this department

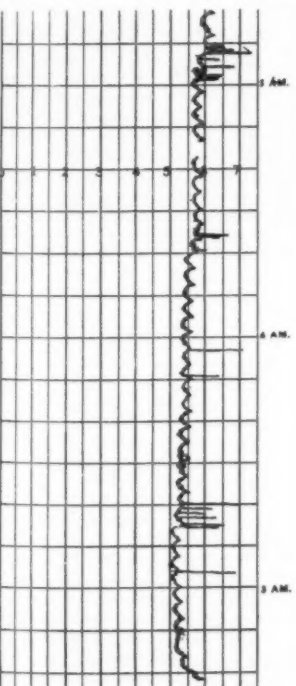


FIG. 7.

will be quite marked with individual drive, as compared with group driving.

If I may be permitted to assume that there has been anything worth while in this talk I would say it may be boiled down to the statement that the marvelous development of the electric motor and its

appliances enables you to get more and a better product from your mills than was possible with any unit or group drive. Honor those who have gone before and

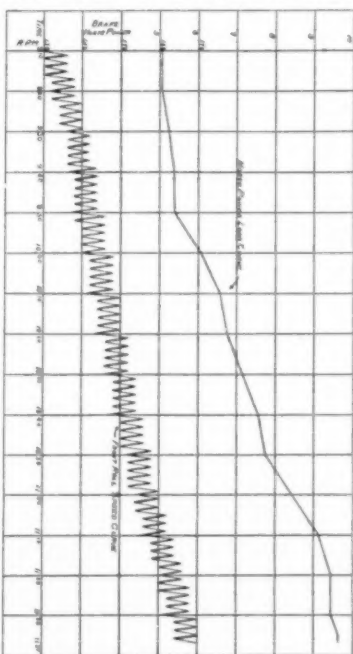


FIG. 8.

appreciate that they did the best that could be done with the light they had, but do not be satisfied until you have studied your problem in the full light of your day.

MINING

Chrome Ore Production.

Chrome iron is used extensively in the manufacture of ferro-chromium, employed for making special steels, alone or in combination with tungsten, manganese, nickel or other steel-hardening metals. It is also used for lining copper, lead, steel and other furnaces where the corrosive action is very great. For this purpose it is used either in the crude form or as chrome brick. A third use of chromite is in the manufacture of chromium compounds, such as oxides and metal chromates for use as pigments and as dyes and alkaline bichromates for use as mordants and as tannages.

There was a decided falling off in the production of chromic iron ore in the United States in 1910 compared to that for 1909, according to a report by E. F. Burchard of the United States Geological Survey. The quantity of the ore marketed in 1910 amounted to 205 long tons, valued at \$2729, as compared with 598 long tons, valued at \$8300, in 1909. Almost the entire production of chromic iron ore since 1880 has come from California, with minor quantities from Wyoming. The greater part of the ore mined in 1910 was used for furnace linings. As in previous years, the imports far exceeded the domestic production. In 1910 the imports of chrome ore into the United States from New Caledonia, Greece, and other countries amounted to 38,579 long tons, valued at \$415,768, as compared with 39,624 long tons, valued at \$460,578, in 1909.

The price of chrome ore varies from \$10 to \$20 a ton, according to grade of ore and conditions of supply. Imported ore from New Caledonia carrying 50 per cent. of chromic oxide was quoted in New York in 1910 at an average price of \$15 a long ton in carload lots, exclusive of cost of transportation. In 1909 the price averaged \$16.24 a ton. If the chromic oxide exceeds 50 per cent., the value of the ore rises in proportion, and there is a more rapid proportionate decrease for lessening

chromic oxide content. The price of the California ore is governed almost entirely by local conditions, as there is little or no competition with foreign ores.

A copy of Mr. Burchard's report may be obtained on application to the Director of the Geological Survey, Washington, D. C.

Amalgamated Phosphate Co.

The Amalgamated Phosphate Co. has been chartered with \$2,500,000 capital stock by Samuel T. Morgan, president of the Virginia-Carolina Chemical Co., Richmond, Va.; Lorenzo A. Wilson, president of the Wilson & Toomer Fertilizer Co., Jacksonville, Fla.; Benjamin H. Y. Brewster, Jr., Philadelphia, of Baugh & Sons Company of Baltimore; Frank Morse Smith and Wm. H. Gelshenen of New York.

FOREIGN NEEDS

Machinery and equipment wanted abroad are mentioned in many letters received by the MANUFACTURERS RECORD, which is so widely read in foreign countries that we are in constant receipt of many letters from all parts of the world. For the benefit of our subscribers seeking foreign trade we publish the following extracts from recent letters:

Wanted for Greece's Trade.

C. G. Seizan and J. C. Pavlatos, 61 Notaras street, Piraeus, Greece, write to the MANUFACTURERS RECORD:

"We deal chiefly in mineral lubricating oils and mineral greases. We also trade largely in many kinds of goods, acting as agents on commission. There is a large field in this country for products of your States, as doubtless your consular reports tell you.

"Recently the United States consul in Athens allowed us to obtain a few addresses in a business directory, and we have concluded purchases of lubricating oils from two refining companies in your country. We are open to push for account of the makers, or for our account, 'automobile car benzines' in cans of 12½ kilos, net, each cased in pairs; next in order would come mutton oils and oleo oils in barrels, of which lines hundreds of barrels are regularly imported by each Greek transatlantic liner from New York to Piraeus. Leather belting, double and single, for driving and power transmission work, and cotton belting interest us; also pumps and pumping machinery, windmills for water-works, irrigating, etc., wire ropes, autocars, typewriters, pig-iron and chains.

"We shall appreciate samples, where practicable, and prices with catalogues and full explanatory matter at c. i. f. Piraeus rates. We are open to execute orders for olive oil, olives and any produce that can be exported from Greece."

Wrapping Paper Manufacturers.

C. F. Austin, vice-president and general manager Cuba Fruit Exchange, Zulueta 28, Havana, Cuba, writes to the MANUFACTURERS RECORD:

"Can you give me the address of the Northern office of the United Papers Co. and of any other paper firms making fruit and vegetable wrapping paper within close vicinity of New York city, so we can obtain ocean freight rates?"

To Market Iron Beams.

Guell & Coello, Habana (Regla), write to the MANUFACTURERS RECORD:

"We have long desired to broaden the lumber business, to which we have heretofore devoted our energies, by the importation of iron beams. With this end in view,

can you put us in communication with some manufacturer or exporter of the above article who wishes to have a representative in the market?"

Buck Creek Cotton Mills.

Referring to progress in the doubling of his company's plant, James A. Greer, superintendent of the Buck Creek Cotton Mills, Siluria, Ala., writes to the MANUFACTURERS RECORD as follows:

"The mill was formerly 10,000 spindles and 320 plain looms, manufacturing print cloths and some dobby weaves. An addition is being built which will enlarge capacity to 20,000 spindles. All the plain looms have been thrown out, and the mill is being equipped with 400 automatic 40-inch looms to be operated on drills and sheetings. There will be sufficient carding and spinning to run 600 40-inch looms. For the present we will operate 200 looms at night. It is our intention to later install 200 more looms. Number of operatives will be about 200. Capacity will be about 100 bales of cotton per week. Will equip with two steam electric engines direct connected. Horse-power required is about 900. Picking machinery furnished by Kitson Machine Shop, Lowell; cards and drawing by Saco-Pettee Company, Newton Upper Falls; fly frames by Woonsocket (R. I.) Machine & Press Co.; spinning by Fales & Jenks Machine Co., Pawtucket; warpers by T. C. Entwistle Company, Lowell; spoolers by Saco-Pettee Company, Biddeford; slashers by Cohoes (N. Y.) Iron Foundry & Machine Co.; looms by Stafford Company, Readville, Mass.; clothroom machinery by Curtis & Marble Machine Co., Worcester; four napping machines by Woonsocket (R. I.) Napping Machine Co.; motors and generators by General Electric Co., Schenectady; engines by C. & G. Cooper Company, Mt. Vernon; two 200-horse-power boilers by Walsh & Weidner, Chattanooga. The engineer in charge of new construction is J. E. Sirrine, Greenville, S. C."

To Manufacture Metal Products.

The Carolina Metal Products Co. of Wilmington has been incorporated with an authorized capital of \$150,000 to manufacture all kinds of metal products. It has secured a site on the Atlantic Coast Line Railway of about one city block, and will at once begin the construction of buildings. Plans and specifications have been completed for these structures and for the machinery. This company's officers are: President and general manager, Theo. G. Empe; vice-president, John P. Council; secretary, Meares Harriess; treasurer, John H. Kuck.

Paragon Colliery Co.

The Paragon Colliery Co. of Macdonald, W. Va., has been chartered with \$100,000 capital stock by A. G. Kirtley, J. W. Wilson and L. E. Yoder of Macdonald, P. M. Snyder of Mt. Hope, W. Va., and W. E. Deegans of Glen Jean, W. Va.

It is reported that the industrial department of the Seaboard Air Line Railway, Portsmouth, Va., is completing negotiations for the establishment of two cotton mills on the Seaboard route. One of these is reported as to be a 50,000-spindle plant, capitalized at \$1,000,000, and to be built at Jacksonville, Fla., while the other is to be a 15,000-spindle plant, capitalized at \$300,000, and to be built at Denmark, S. C.

Indicating the growth of apple orchards in the Valley of Virginia is an order received last week by a factory at Harrisonburg for 25,000 apple barrels for an orchard near Mt. Jackson.

Construction Department

TO OUR READERS!

In order to follow up properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "it is reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be shown on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the postoffice will be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur.

WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year. On all advertising contracts in the Manufacturers Record for three months or longer a subscription to the Daily Bulletin is included for the contract period.

BRIDGES, CULVERTS, VIADUCTS

Ga., Cedartown.—Seaboard Air Line Railway's plans for bridge across College St. include structure 73 feet long, roadway 35 feet and sidewalks on each side 6 feet wide; solid floor bridge, consisting of steel beams on girder spans; reinforced concrete floor slabs; roadway to be paved with wood block paving and sidewalks of granolithic; W. L. Seddon, chief engineer, Portsmouth, Va. (Recently noted.)

Ky., Carrollton.—Carrollton & Prestonville Bridge Co., J. E. Gullion, receiver, will repair bridge across Kentucky River; bids received until August 15; Pierce Butler, engineer, 303 Norton Bldg., Louisville, Ky. (See "Machinery Wanted.")

La., Bermuda.—Natchitoches parish will receive bids until August 31 for construction of steel bridge over Cane River; P. E. Prudhomme, chairman bridge committee; Ira W. Sylvester, Alexandria, La., is engineer. (See "Machinery Wanted.")

La., New Orleans.—Mercantile Club, W. H. Ker, president, and associates contemplate arranging plan to secure construction of bridge across Lake Pontchartrain; reports state structure would cost several million dollars.

La., Tallulah.—Board of Police Jury, A. L. Slack, secretary, will construct bridge across Joe's Bayou at head of Joe Bayou Lake; bids received until August 29. (See "Machinery Wanted.")

Miss., Laurel.—Jones county will erect steel piers on and to Tallahala bridge on Laurel

and Myrick public road, and construct approaches; bids received until August 7; J. H. Crawford, clerk. (See "Machinery Wanted.")

Miss., Pickens.—Yazoo county will construct bridge over Bear Creek about two miles from Pickens; contract to be awarded August 7; S. S. Griffin, clerk Yazoo County Supervisors. (See "Machinery Wanted.")

Mo., St. Louis.—City will receive bids until August 15 for construction of third and fourth sections of municipal free bridge, being foundation and retaining wall and steel construction of west approach. Address Board of Public Improvements. (See "Machinery Wanted.")

Tenn., Knoxville.—Knox county will construct concrete bridge across Stock Creek in Thirteenth district. Address County Commissioners.

Tenn., Rogersville.—Hawkins County Commissioners authorized \$20,000 bond issue for construction of bridge across Holston River near Church Hill.

Tex., Dallas.—Dallas county voted \$500,000 bond issue for bridge and road construction. Address County Commissioners.

Va., Clintwood.—P. St. J. Wilson, State Highway Commissioner, Richmond, Va., received bids until August 3 for construction of two steel bridges in Dickenson county, one over McClure's River and one over Russell Fork; plans and specifications on file in office of clerk.

Va., Leesburg.—Loudoun county will construct three reinforced concrete bridges—one 173 feet, over Catactin Creek; one 42 feet, over Tuscarora Creek, and one 34 feet, over Clarke's Creek; bids received until August 14; P. St. J. Wilson, State Highway Commissioner, Richmond, Va. (See "Machinery Wanted.")

W. Va., Grafton.—Grafton Traction Co. awarded contract to Farris Bridge Co., Pittsburgh, Pa., at \$30,000 to construct two bridges across Tygart's Valley River; one structure will be 754 feet long, carry street-railway track and connect East and West Grafton; other will be foot bridge to connect West Grafton with Grafton Park.

W. Va., Fairmont.—Fairmont & Mannington Railway, W. M. Laws, general manager, will construct two bridges over Buffalo Creek.

CANNING AND PACKING PLANTS

Fla., Jacksonville.—Florida Land Syndicate, Frederick S. Gray, president (not J. A. Cranford as recently reported) incorporated with \$500,000 capital stock; will open bids August 15 to erect building; cost, including machinery, \$50,000; office at 911 W. Bay St.; contemplates establishment of other factories in State. (See "Machinery Wanted.")

La., Daspit, P. O. Chauvin.—Oyster Grower & Fish Co. will establish oyster plant; F. Theriot, O. J. Theriot, Felix Bourg and others are interested.

Tex., Mission.—Mission Canning & Preserving Co. increased capital stock by \$10,000.

CLAYWORKING PLANTS

Ga., Tifton.—Bricks.—Georgia Brick Co. incorporated with \$40,000 capital stock by R. C. Postell, H. J. White and others.

COAL MINES AND COKE OVENS

Ky., Harlan.—Kentonia Mining Co. organized by C. P. Perin, 2 Rector St., New York; leased and will develop 65,000 acres coal and timber land owned by Kentonia Corporation, Chas. H. Davis, president, South Yarmouth, Mass.; Kentonia Mining Co. has also purchased 5000 acres and is negotiating for 10,000 to 20,000 acres for development.

Ky., Louisville.—Yager & Newhouse Coal Co. incorporated with \$3000 capital stock by O. J. Yager, William H. Newhouse and N. A. Yager.

Ky., Pikeville.—William Branch Land & Coal Co. incorporated with \$20,000 capital stock by R. C. Ford, W. T. Murray, M. J. Moss and J. H. Wilson.

W. Va., Dorothy.—Four States Coal & Coke Co., Frick Bldg., Pittsburgh, Pa., purchased 20 acres coal land (adjacent to present property) for \$20,000; will develop.

W. Va., Logan.—Crown Coal & Coke Co. incorporated with \$50,000 capital stock by John Lax, Fred Raybould, Plummer Lax, Eliza Lax and Maud Raybould, all of Nelsonville, O.

W. Va., MacDonald.—Paragon Colliery Co. incorporated with \$100,000 capital stock by P. M. Snyder of Mt. Hope, W. Va.; W. E. Deegans of Glen Jean, W. Va.; A. G. Kirtley, J. W. Wilson and L. E. Yoder of MacDonald.

COTTON COMPRESSES AND GINS

Ala., Athens.—Merman & Yarbrough will erect four-head gin plant; machinery purchased.

Ala., Athens.—Henry Warten will increase 8-gin-head plant to 16 gin heads of 80 saws each; capacity, 250 bales daily.

Ala., New Decatur.—Decatur Cotton-Seed Oil Mills will enlarge cotton gin and fertilizer plant and make other improvements; work begun.

Ark., Argenta.—Gulf Compress Co., Gus R. Moulit, superintendent, awarded contract to Memphis (Tenn.) company to rebuild on enlarged scale burned cotton compress. (Recently mentioned.)

Ark., Pochontas.—A. Z. Schnabaum will install additional machinery in cotton gin; capacity to be 80 bales daily.

Ga., Gabbettville.—Farmers' Gin Co. incorporated with \$5000 capital stock by Fanning Potts, J. O. Kimbrough, J. M. Fomby, G. T. Traynor and others.

Ga., Jake.—James Entreklin will rebuild cotton gin and install additional machinery; T. M. Chandler, Carrollton, Ga., in charge of installation.

Ga., Mount Zion.—James Entreklin, Jake, Ga., and associates will erect cotton gin with daily capacity of 30 bales; T. M. Chandler, Carrollton, Ga., in charge.

Okla., Hobart.—W. U. Baker and W. C. Baker of Hobart and W. P. Long, Lindsay, Okla., will construct cotton gin; capacity, 40 bales daily; machinery driven by 100-horsepower electric motor.

Okla., Tushka.—Tushka Gin Co. incorporated with \$3000 capital stock by J. Randall Connell and J. C. Collier, Jr., Durant, Okla., and John Welch, Atoka, Okla.

S. C., Greenwood.—Panola Ginnery Incorporated with \$4000 capital stock by F. S. Evans, G. B. Merchant and T. B. Hughes; erect cotton gin to be equipped with four 70-saw gins operated by electricity.

S. C., Lake City.—Farmers' Union Ginning & Manufacturing Co., C. E. Thomlinson, president, has installed new machinery; later may install electric plant. (Recently noted tin increase capital stock to \$10,000.)

S. C., McClellansville.—Seashore Milling & Ginning Co. incorporated with \$1000 capital stock by R. M. Lofton, H. M. Lofton, J. A. Lofton and H. L. Lofton.

Tenn., Ripley.—Union Gin Co. organized with H. P. Keller, president; W. A. Andrews, vice-president; A. S. Anthony, secretary-treasurer; will erect 38x62-foot, 14x20-foot and 34x16-foot buildings; E. A. Talliaferro, engineer in charge; cost of machinery (purchased) \$6000; daily capacity 80 to 100 bales of cotton. (Recently reported incorporated with \$7000 capital stock.)

Tex., Avalon.—Avalon Gin Co. incorporated with \$10,000 capital stock by J. M. Parker, G. G. Smith and J. M. Powell.

Tex., Bishop.—Bishop Cotton Gin Co. incorporated with \$6000 capital stock by Robert J. Kleberg, Charles H. Flato, Jr., and R. G. Flato.

Tex., Donna.—Farmers' Gin Co. has organized with J. C. Hardison president, W. E. Stewart vice-president and treasurer, S. J. Smallwood secretary, B. H. Hooks manager; completed four-stand cotton gin at cost of \$6000; daily capacity, 40 bales cotton. (Recently reported incorporated with \$5000 capital stock.)

Tex., Gorman.—Gorman Compress Incorporated with \$12,000 capital stock by S. Perry, E. W. Kimble, G. W. Howell and others.

Tex., Greenville.—Electric Gin & Ice Co. incorporated with \$12,500 capital stock by C. M. Dallens, P. H. Childress and R. D. Weddle.

Tex., Greenville.—Farmers' Electric Gin & Ice Co. organized by C. M. Dollins and others; will erect cotton gin and ice plant.

Tex., Sherman.—Farmers & Merchants' Gin Co. incorporated with \$10,000 capital stock by George F. Murphy, W. R. Brents and Edwin Kidd.

COTTONSEED-OIL MILLS

Okla., Tulsa.—Tulsa Cottonseed Oil Mill will erect additional mealroom.

S. C., Rowesville.—Rowesville Oil Co. incorporated with \$45,000 capital stock by E. N. Chisolm and Warren C. Fairley of Rowesville, A. C. Dukes and George V. Ziegler, Orangeburg, S. C.

DRAINAGE AND IRRIGATION

La., New Orleans.—Plaquemines Reclamation & Land Co. incorporated with \$50,000 capital stock; Ernest Woltersdorf, president; Charles E. Kollo, vice-president; Claude E. Fitch, secretary; Charles E. Johnson, treasurer; William H. Cook, general manager.

N. C., Fayetteville.—Drainage district organized at Fayetteville measuring nine miles long by six miles wide; Government will make drainage survey; estimated that 22,000 acres will be reclaimed for agricultural purposes. R. H. Buckingham, A. L. McGaskill, Fred Crews, W. S. Cook and others are interested. Mr. Buckingham advises Manufacturers Record that completion of survey is contemplated for December 1; land to be used for growing corn, cotton and peas.

Tex., Cotulla.—L. C. Cole wires Manufacturers Record: "Propose to irrigate about 20,000 acres; dam construction of concrete; length 300 feet; height 25 feet; plans being prepared; Black & Milliken of Cotulla, designers." (Mr. Cole and others recently reported as planning irrigation system.)

Tex., Delvalle.—Pay Daniels and Charles Jones, owners of Lomes Farm at Delvalle, propose to construct dam across Colorado River, which will irrigate 5000 to 8000 acres; height of dam, 15 feet; estimated cost, \$30,000; river is 600 feet wide.

Tex., Galveston.—Dr. F. S. Pearson, president of Mexico Northwestern Railway, 20 Exchange Place, New York, is reported to have completed arrangements whereby he and English capitalists will construct three systems, on Guadalupe, Frio and Nueces rivers, for irrigating 350,000 acres now controlled and 150,000 acres under negotiation; systems to require dams, canals, etc.; land developments to include extensive cotton plantation; ultimate investment of \$15,000,000 reported as planned. Dr. Pearson's office wires to Manufacturers Record: "Unable to supply any information at this time." (Other irrigation plan of Dr. Pearson recently reported.)

Tex., Hansford.—Alamo Irrigation Ditch Co. incorporated with \$1000 capital stock by J. H. Wright, C. E. Crosby and Tom Crosby.

Tex., Spofford.—D. B. Chapin of Brownsville, Tex., writes to Manufacturers Record: "My plan is to dam Devil's River, raising water 150 feet, tunneling four miles to a divide, and constructing gravity system to irrigate 125,000 to 150,000 acres in vicinity of Spofford; cost estimated at between \$3,000,000 and \$4,000,000; surveys not complete; engineer in charge S. J. Rowe of San Antonio." (Recently mentioned under Del Rio.)

ELECTRIC PLANTS

Ala., Blue Mountain City, P. O. Anniston.—Town is considering arrangements to secure electric lights; H. F. Williamson, Mayor.

Ark., Helena.—Helena Electric & Gas Co. awarded contract to T. P. Reynolds, Memphis, Tenn. (branch offices in Helena), to erect electric power-house building; 80x80 feet; one story; concrete foundation; brick construction and tile roof; equipment to be installed will include four 300-horsepower 200-pound superheat boilers, three 200-kilowatt 2300-volt turbines, three 200-kilowatt rotaries; total cost will be \$150,000 to \$200,000; Schofield Engineering Co., Arcade Bldg., Philadelphia, Pa., controls company; plans by Schofield Company. (Recently mentioned.)

Fla., Pablo Beach.—City is considering installation of electric-light plant; may grant franchise; proposed to use compressed-air machine to generate electricity. Address The Mayor.

Fla., South Jacksonville.—Board of Bond Trustees will construct water-works and electric-light plant; bids received until August 24; William W. Lyon, consulting engineer, 305 Duval Bldg., Jacksonville, Fla.; W. W. Swaim, chairman. (See "Machinery Wanted.")

Ga., Jackson.—City will vote on \$5000 bond

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

issue for extension of electric-light and water systems. Address The Mayor.

La., Shreveport.—Anderson Offutt, engineer, New Orleans, La., estimates cost of municipal electric-light plant at \$310,000; city may vote on bond issue. (City recently stated to have engaged Mr. Offutt to submit report.)

Mo., Cape Girardeau.—Cape Girardeau-Jackson Interurban Railway Co. is considering plans for construction of substation.

Mo., Lamar.—Rollins & Westover, consulting engineers, Beals Bldg., Kansas City, Mo., are preparing plans. It is reported, for improvements to electric-light plant and water-works; estimated cost, \$75,000.

Okla., Muldrow.—City contemplates voting on bond issue and franchises for electric light and water systems. Address The Mayor.

Okla., Pawhuska.—City voted \$10,000 bond issue for extending and improving electric-light system. Address The Mayor. (Lately noted.)

S. C., Edgefield.—City will vote again August 21 on \$15,000 bond issue for construction of electric-light plant; J. B. McCrary Company, 1311 Empire Bldg., Atlanta, Ga., is engineer; W. H. Harding, Clerk and Treasurer.

S. C., Lake City.—Farmers' Union Ginning & Manufacturing Co. may install electric plant.

S. C., Orangeburg.—City will install engine and generator in electric-light plant; equipment purchased.

Tex., Tenaha.—Town granted franchise to C. C. Swindell for installation of electric-light plant.

Tex., Willis Point.—J. H. Human, John E. Owens, E. A. Russell and others will organize company with \$10,000 capital stock to rebuild electric-light plant recently reported burned.

Va., West Point.—People's Light, Heat & Power Corporation incorporated with \$25,000 capital stock; J. R. McKee, president; Crosby Thompson, vice-president; A. J. Bagley, secretary; H. E. Topping, treasurer.

W. Va., Dunbar.—Charleston-Dunbar Traction Co., Charleston, W. Va., will build electric-power plant.

W. Va., Dunbar.—Charleston-Dunbar Traction Co. will erect power-house. Fred Paul Grosscup, Charleston, W. Va., is president.

W. Va., Kenova.—Ohio Valley Electric Railway Co. will erect addition to Kenova power-house.

FERTILIZER FACTORIES

Ala., New Decatur.—Decatur Cottonseed-Oil Mills will enlarge fertilizer plant. (See "Cotton Compresses and Gins.")

Ga., Hawkinsville.—Ocmulgee Guano Co., previously reported incorporated with \$25,000 capital stock, awarded contract to W. W. Simmons, McKee, Ga., to erect factory; ordinary construction; cost \$30,000; will install dry mixing plant to cost \$20,000 and elevating outfit for boat line; daily capacity 150 tons fertilizers; R. F. De Lamar, president; A. W. Waller, secretary-treasurer and manager. (See "Machinery Wanted.")

Ga., Thomasville.—Thomasville Fertilizer Co. incorporated with \$30,000 capital stock by J. W. Bell, B. H. Wright, James McKinnon, J. A. Chastain and others; will acquire Mr. Bell's plant and increase capacity.

N. C., Wilmington.—Navassa Guano Co. will rebuild plant reported burned; construction by company.

S. C., Aiken.—Farmers' Storage Co. changed name to Farmers' Storage & Fertilizer Co., increased capital stock to \$100,000 and will construct fertilizer-mixing plant.

S. C., Cowden.—Southern Independent Fertilizer Co. incorporated with \$100,000 capital stock; J. J. Doughty, president, and Charles Warren Davis, secretary-treasurer; main office in Irish-American Bank Bldg., Augusta, Ga.; plans development of humus matter for fertilizer; has not determined details for factory.

S. C., Rock Hill.—Rock Hill Fertilizer Co., R. T. Fowell, president (recently noted to improve and enlarge plant), has placed all orders for material and machinery.

Tex., Houston.—Fidelity Chemical Corporation organized with James D. Dawson, president, to establish fertilizer plant; plans not determined; G. O. Haskell, vice-president; R. F. Isbell, secretary-treasurer. (Recently reported incorporated with \$60,000 capital stock at Clinton, Tex.)

FLOUR, FEED AND MEAL MILLS

Ark., Clarksville.—Laser Grain Co., Samuel Laser, president, will erect corn mill and

grain elevator; contract awarded. (See "Miscellaneous Enterprises.")

Ky., Cadiz.—A. P. White & Co.'s plans for wheat elevator and flour mill include fire-proof buildings; capacity of elevator 33,000 bushels of wheat; capacity of mill 125 barrels of flour and 100 barrels of cornmeal and grits; company will supervise construction; day labor; complete system of flour and corn mill machinery will be installed; date of opening bids not set; plans by William Ebert, Louisville, Ky.; C. M. Seckner, Chicago, Ill., recently noted to supervise construction of concrete work.

Mo., Clinton.—Bulte Mills Co. has no definite plans for rebuilding mill reported burned at loss of \$300,000; main office at Kansas City, Mo.

Okla., Temple.—Temple Milling Co., J. W. Enoch, manager, will rebuild flour mill; character of building or machinery not determined; daily capacity, 100 barrels flour. (Recently reported burned.)

Tex., Amarillo.—Amarillo Mill & Elevator Co. will erect 68x85-foot warehouse; purchased mill and equipment; A. G. Boyce, president; Lon Sellers, vice-president; J. N. Bensley, secretary-treasurer. (Recently noted incorporated with \$50,000 capital stock.)

Va., Lexington.—Lexington Roller Mills (Moses Bros.) awarded contract to Howard A. Donald to construct concrete dam across North River to furnish power for mill; dam will be 180 feet long, about 10 feet high and range from 10 feet in thickness at bottom to 3 feet at top; cost \$5000 to \$6000.

FOUNDRY AND MACHINE PLANTS

Ala., New Decatur.—McNeese & Son will erect wagon and machine shop.

Fla., Orlando.—Machinery.—Phillips Manufacturing Co. increased capital stock to \$50,000; will make improvements to plant.

Md., Baltimore.—Gas Engines, etc.—Page Engineering Co., 113-121 E. York St., will erect machine shop and warehouse on Claggett St., South Baltimore; main building will be two stories, brick, 40x100 feet; one-story wing, 52x28 feet; will undertake general machine work and manufacture gas engines and appliances; Thomas B. Stanfield & Co., 109 Clay St., and B. F. Bennett Building Co., 123 S. Howard St., Baltimore, are estimating on construction.

Md., Baltimore.—Norman A. Hill, 405 Courtland St., will erect machine shop at Claggett St. and City Park; one and two stories; brick; 40x100 feet and 28x28 feet; composition roof; construction by owner.

Md., Baltimore.—Wood and Metal Machinery.—Wilford Manufacturing Co. incorporated by Albert Wilford, 1406 E. Fort St.; J. Spencer Clark and Frank E. Welsh, Jr.

Mo., Springfield.—Stoves.—J. E. Leonard contemplates erecting stove foundry; reported estimated cost \$300,000.

Mo., St. Louis.—Flows, etc.—Oliver Chilled Plow Co., South Bend, Ind., awarded contract for erection of proposed six-story building on North Broadway, to be equipped as plow factory.

Tenn., Chattanooga.—Electric Machinery, etc.—Auto-Electric Co. incorporated with \$25,000 capital stock by W. B. Royster, B. Walz, A. C. Carroll, Frederick Giddings and A. C. McClellan; proposes to install electric steam plants, repair and build electric machinery, automobiles, etc.; secured building at 722 Chestnut St. and is installing machinery.

Tex., Dallas.—Steel Products.—Southern Steel Products Co. incorporated with \$1000 capital stock by C. H. Marquess, Owen Hughes and W. E. Weathered.

W. Va., Grafton.—Baltimore & Ohio Railroad, F. L. Stuart, chief engineer, Baltimore, Md., will, it is reported, erect machine shop and supply building; awarded contract.

GAS AND OIL DEVELOPMENTS

Ark., Texarkana.—Columbia Land, Oil & Gas Co. incorporated with \$75,000 capital stock; owns and controls properties in Lafayette and Columbia counties and will drill for oil and gas; George F. Jasper, president; C. Guss, vice-president; F. W. O'Brien, treasurer; George Gray, secretary; W. A. Smith, general manager.

La., Lake Charles.—Local Oil & Development Co., Ltd., incorporated with \$20,000 capital stock by John J. de Prasin, R. L. Hale and E. R. Jory.

Okla., Frederick.—Big Pasture Oil & Gas Development Co. incorporated with \$180,000 capital stock by W. K. Menefee of Dallas, Tex.; C. A. Swartz and G. V. Harris of Frederick.

Okla., Lawton.—Epstein Oil Co. incorpo-

rated with \$10,000 capital stock by Matt H. Beddow, W. F. Whitton and J. R. Davis.

Okla., Sapulpa.—Elbert Oil & Gas Development Co. incorporated with \$5000 capital stock by E. C. Wallace, E. Mae Gordon and H. E. Wallace.

Okla., Sapulpa.—Rice Oil Co. incorporated with \$10,000 capital stock by C. C. Peters of Sapulpa, A. J. Rice and A. C. Stiles of Waxahatchie, Tex.

Okla., Tulsa.—Pluto Oil & Gas Co. incorporated with \$60,000 capital stock by M. J. Delaney, W. C. Jernigan and C. S. Walker of Tulsa, and J. W. Brown of Brownsville, Tenn.

Okla., Tulsa.—Clay Oil Co. incorporated with \$5000 capital stock by J. F. Kirkpatrick, T. O. Cremin, Conn Linn and J. W. Sturm.

W. Va., Buckhannon.—Thompson-Faw Oil & Gas Co. incorporated with \$50,000 capital stock by W. M. Faw and J. F. Thompson, Albert, W. Va.; A. A. Talbott, Elkins, W. Va.; F. E. Hinchbaugh, Thomas, W. Va., and others.

W. Va., Henry.—Blue Knob Oil & Gas Co. incorporated with \$25,000 capital stock by Ira C. Parks, A. W. Bell, B. C. Eakle, H. B. Davenport and others, all of Clay, W. Va.

W. Va., Huntington.—Gerst Oil & Gas Co. incorporated with \$16,000 capital stock by A. B. Brode, H. M. Wood, C. A. Staats, J. M. Clouston and C. S. Love.

W. Va., Parkersburg.—Nina Oil & Gas Co. incorporated with \$20,000 capital stock by L. C. Pritchard, W. O. Clayton, L. W. Reitz, E. A. Meade, S. W. Whan and others.

ICE AND COLD-STORAGE PLANTS

Ala., Athens.—Miller Ice & Lumber Co. incorporated with \$12,800 capital stock by F. P. Miller, E. M. Miller and Harry N. Miller.

Fla., Starke.—Wall Bros. will rebuild ice factory recently reported burned; part of machinery to be repaired.

Fla., St. Petersburg.—C. M. Williams Company, Horace Williams, manager, will install 25-ton ice-manufacturing machine; equipment will include new brine tanks, ice cans, etc.; will also install boiler of 200 horsepower capacity and probably electrically-operated hoists.

Md., Salisbury.—Salisbury Ice Co. will rebuild burned plant; ordinary construction; daily capacity 50 tons ice; J. D. Price, manager, may be addressed. (Recently noted.)

Okla., Muskogee.—City Ice & Cold Storage Co. incorporated by Ezra Brainerd, Jr., and L. W. Duncan of Muskogee and Frank Riddle, Iola, Kans.; will establish \$100,000 ice and cold-storage plant.

Tex., El Paso.—American Exploration & Holding Co. has incorporated company to build El Paso public markets; steel and concrete construction; stalls of galvanized steel and interchangeable, or of some other improved sanitary material; also propose to install cold-storage system; has not determined designs or awarded any contracts. (See "Machinery Wanted.")

Tex., El Paso.—El Paso & Southwestern Railroad, G. F. Hawks, general superintendent, awarded contract to Stanley Bevan to erect cold-storage warehouse to be used by Morris & Co.; structure will be buff El Paso brick; two stories; refrigerating plant in basement; site 50x100 feet.

Tex., Greenville.—Farmers' Electric Gin & Ice Co. organized by C. M. Dollins and others; will erect ice plant and cotton gin.

Va., Emporia.—George W. Harrison contemplates establishment of ice plant. (See "Machinery Wanted.")

Va., Lynchburg.—Standard Ice Co. will erect addition to plant; brick; slag roof; cost \$10,000; daily capacity 50 tons of ice; will not begin work until spring of 1912.

W. Va., Wheeling.—C. Kalbitzer Packing Co. awarded contract to J. R. Butts & Sons Company of Wheeling to erect \$6000 storage-house; 27x40 feet and 80x56 feet; fireproof construction; plans by Cincinnati Butchers' Supply Co., Cincinnati, O.

IRON AND STEEL PLANTS

Ala., Florence.—Iron Furnace.—Sloss-Sheffield Steel & Iron Co., Woodward Bldg., Birmingham, Ala., will blow in Philadelphia Iron furnace.

Ala., Sheffield.—Iron Furnace.—Sloss-Sheffield Steel & Iron Co., Woodward Bldg., Birmingham, Ala., will blow out Hattie Ensley furnace for repairs.

Tex., Fort Worth.—Iron, etc.—Texas Rolling Mill Co. increased capital stock from \$175,000 to \$300,000; will enlarge plant and add machinery and fabrication department; proposes to repair cars and establish process for

manufacture of steel rails into reinforced concrete bars.

LAND DEVELOPMENTS

Ala., Foley.—Bay La-Launch Orchard Co. organized to improve 2000 acres for cultivation of peaches, satsuma oranges, etc.; C. M. Best, president, Minneapolis, Minn.; M. J. O'Keefe, vice-president, and E. Duke Naven, secretary, both of Foley.

Ark., Little Rock.—Sycamore-Rice Farm Co. incorporated with \$50,000 capital stock by E. B. Richmond, W. V. Howell, J. E. Turpin and others.

Ala., Livingston.—Sumter Land Co. incorporated with \$75,000 capital stock; will develop property near Livingston, dividing into small tracts and city lots; W. J. McCain, president; T. L. Smith, vice-president and secretary; L. B. Spatt, treasurer.

Ark., Lonsdale.—Arkansas Valley Land Co. incorporated with \$25,000 capital stock; now controls 2000 acres near Lonsdale, which will be divided into 10-acre tracts and sold; other tracts, for which company is negotiating, will be disposed of in similar manner; offices in Little Rock, Ark.

Ark., Warner (not a postoffice).—Walter Hudson, Pine Bluff, Ark., will develop 1800 acres farming lands about two miles from Wabbaseka; will divide property into 40-acre farms and establish townsite to be known as Warner; W. D. Dickinson of Dickinson & Watkins, engineers, Southern Trust Bldg., Little Rock, Ark., made surveys.

Fla., Lee County.—Don Farnsworth and W. B. Graham, Chicago, Ill., purchased 20,000 acres in Lee and De Soto counties; will divide into small farms.

Ga., Atlanta.—Southland Estates Co. will develop property in West End as suburban residential section; property is being surveyed and platted, roads and streets constructed, etc.; John P. Force, company's chief engineer, is in charge.

Ga., Waycross.—J. W. Tipples, J. M. Miles, R. E. Jarman and others purchased 10,000 acres of farm lands for \$50,000 and will develop.

Md., Baltimore.—Hillsdale Land Co. incorporated with \$25,000 capital stock by Francis P. K. Walsh, 300 E. Lexington St.; Theodore H. Schreiber and J. Leiper Winslow.

Md., Baltimore.—Suburban Land Co. incorporated with \$10,000 capital stock by Earle A. Kraft, 231 Courtland St.; Samuel H. Adams, Jr., and Frederick R. Peddicord.

Miss., Deason.—Delta Farms Co. chartered with \$500,000 capital stock by George Vandertunk of St. Paul, Minn.; P. D. Bierna of Newton, Iowa; Frank Hayden and W. P. Markie of Memphis, Tenn. Mr. Vandertunk and associates were reported recently as having purchased (for Holland capitalists) 9000 acres delta land at about \$1,000,000 and to develop by cultivating cotton, etc., plan including ultimate investment of \$1,000,000 for improvements.

Tenn., Memphis.—Lamar Heights Co. incorporated with \$25,000 capital stock by G. G. Alban, John P. Bullington, W. H. Wood, M. R. Patterson and J. W. Taylor.

Tex., Corpus Christi.—Shary Development Co. organized with \$250,000 capital stock; acquired 2000 acres near Tylan and will cultivate; John H. Shary is president.

N. C., Asheville.—Blue Ridge Development Co. organized with J. S. Taylor president, M. W. Ulmer vice-president, both of Largo, Fla.; S. G. Bernard, secretary, Asheville; G. A. Petteway, Tampa, treasurer; will acquire tract of land about 10 miles from Asheville and subdivide; improvement plans not determined; engineer not selected. (Recently noted incorporated with \$25,000 capital stock.)

S. C., Charleston.—Williamsburg Development Co. incorporated with \$150,000 capital stock by A. T. Smythe, Jr., and E. E. McCoy.

Va., Buena Vista.—Company organized with \$10,000 capital stock to develop 4000 acres for apple orchard; George W. Craig, president, Waynesboro, Va.; J. N. McLeane, vice-president, Morgantown, W. Va.; W. H. Shirey, treasurer, Buena Vista; A. W. Robertson, secretary, Buena Vista.

Va., Lynchburg.—E. J. Wendell, Wayne, Pa., and Charles E. Ashburner of Lynchburg have been engaged to plot Peakland property and prepare plans for improvements, to include grading of streets, laying of sidewalks, sodding of parking and lawns, etc.

Va., Roanoke.—The Southmont Company incorporated with \$300,000 capital stock; O. H. P. Cornell, president, Winston-Salem, N. C.; J. T. Patrick, vice-president, Wadesboro, N. C.; J. M. Windham, secretary, Roanoke.

Va., Roanoke.—Roanoke Orchard Co. incorporated with \$50,000 capital stock; Wm.

L. Andrews, president; T. J. Andrews, vice-president; J. B. Andrews, secretary-treasurer.

W. Va., Bluefield.—Garland Land Association incorporated with \$25,000 capital stock by V. L. Sexton of Bluefield, J. H. McNeer, M. Black and others of Portsmouth, Va.

W. Va., Glenova (not a postoffice).—Hesse & Kirchner, Wheeling, W. Va., will develop 150 acres; divide property into lots, pipe water from numerous springs to reservoir and from there to residences, construct sewer system, gas plant, etc.

W. Va., Dunbar.—Dunbar Land Co. will develop land for suburb.

W. Va., Martinsburg.—Cumberland Valley Fruit Product Co. incorporated with \$50,000 capital stock by James M. Kistler and Clara M. Kistler of Strasburg, Pa.; Thomas J. Kistler, Milton Shafer and Mary E. Kistler of Martinsburg.

W. Va., Martinsburg.—Cherry Hill Orchards incorporated with \$50,000 capital stock by Alexander Clohan, L. H. Thompson, H. J. Thompson, R. S. Thompson and Clarence E. Martin.

LUMBER MANUFACTURING

Ala., Athens.—Miller Ice & Lumber Co. incorporated by F. P. Miller and others. (See "Ice and Cold-Storage Plants.")

Ark., Jonesboro.—Robe Lake Lumber Co. incorporated with \$100,000 capital stock; purchased timber properties in Eastern Arkansas and will erect band-saw mill; E. L. Westbrook is agent for company.

Ky., London.—Chess & Wymond Company, Louisville, Ky., purchased boundary of timber in Leslie county containing 3200 acres white oak timber.

Ky., Louisville.—Cloudercraft Lumber & Land Co. incorporated with \$10,000 capital stock by C. M. Pate, Thomas Longwell and W. E. Bellis.

La., Aiden Bridge.—Whited & Wheelless will erect sawmill of 30,000 feet capacity to replace plant recently reported burned.

La., Lake Charles.—Lake Charles Planing Mill Co. increased capital stock from \$25,000 to \$50,000.

Miss., Lexie.—D. M. Smith Lumber Co. incorporated with \$5000 capital stock by D. M. Smith, V. H. Holmes and H. W. Smith.

Miss., Wiggins.—Finkbine Lumber Co. will enlarge sawmill and install band saw; capacity to be increased to 275,000 feet daily.

Mo., St. Louis.—Hammelsheim Lumber Co. increased capital stock from \$20,000 to \$40,000.

N. C., Craggy, P. O. Asheville.—West Bend Manufacturing Co. incorporated with \$10,000 capital stock by T. F. Davidson and others.

Tenn., Chattanooga.—A. G. Stivers Lumber Co. incorporated with \$175,000 capital stock by A. G. Stivers, J. T. Arnold, A. J. Gahagan and others.

Tex., Latexo.—Blount Summers Lumber Co. incorporated with \$25,000 capital stock by J. H. Summers, E. A. Blount and Frank Sharp, Jr.

Tex., Livingston.—Livingston Lumber Co. will rebuild burned planing mill; install three fast-feed machines with daily capacity of 100,000 feet; equipment purchased.

Va., Concord.—Jack Cardwell will rebuild sawmill recently burned.

Va., Newport News.—J. T. Haynes, Richmond, Va., purchased timber land for \$3700.

METAL-WORKING PLANTS

Ark., Texarkana.—Tennison Bros. (H. B. Tennison, president, Houston, Tex.) incorporated with \$100,000 capital stock, not \$92,000 as recently reported.

Fla., Jacksonville.—Cans.—Fred S. Gray will establish can factory.

N. C., Wilmington.—Culverts, etc.—Carolina Metal Products Co. chartered with \$150,000 capital stock to build plant for manufacturing culverts and other metal products; has plans and specifications for buildings and machinery; president and general manager, Theo. G. Empe; vice-president, John P. Council; secretary, Meares Harriss; treasurer, John H. Kuck. (Recently mentioned.)

Okla., McAlester.—Beds.—Ohio Iron & Brass Bed Co. will establish iron and brass bed factory in Hillsdale Addition; buildings being erected by W. E. Vorhes, contractor; D. J. Miller will be general manager.

Va., Richmond.—Cans.—Southern Manufacturing Co., E. C. Laird, president, will erect can factory in South Richmond.

W. Va., Wheeling.—Metal Beds.—Sterling Bed Co. increased capital stock from \$40,000 to \$75,000; will install machinery for manufacturing wood-finished metal beds; W. R. Cox is superintendent.

MINING

Fla., Jacksonville.—Phosphate.—Amalgamated Phosphate Co. chartered with \$2,500,000 authorized capital stock by Samuel T. Morgan (president Virginia-Carolina Chemical Co.), Richmond, Va.; Lorenzo A. Wilson (president Wilson & Toomer Fertilizer Co.), Jacksonville, Fla.; Benjamin H. Brewster, Jr. (of Baugh & Sons Company of Baltimore, Md.), Philadelphia, Pa.; Frank Morse Smith and William H. Gelshenen of New York.

Fla., Pembroke.—Phosphate.—Samuel S. Moore of Tampa, Fla., has contract to construct large phosphate plant.

Ga., Atlanta.—Graphite.—Piedmont Graphite Co. increased capital stock from \$250,000 to \$350,000.

Mo., Joplin.—Lead and Zinc.—Bucyrus Lead & Zinc Mining Co. incorporated with \$90,000 capital stock by Edmund Falk, J. M. Short, C. S. McFee and others.

Mo., Joplin.—Missouri Mining & Leasing Co. incorporated with \$2000 capital stock by C. B. Whitney and C. B. Rogers of Cory, Col.

Mo., Kansas City.—Stone.—South Side Stone Co. incorporated with \$3000 capital stock by W. G. Crebo, A. J. L. Gosh and William J. Squires.

S. C., Charleston.—Ore.—Charleston Ore Co. will increase capital stock from \$50,000 to \$150,000. Courtlandt Nicoll, secretary.

Tex., Columbus.—Gravel.—Frnka-Kickler Gravel Co. incorporated with \$16,000 capital stock; Joseph V. Frnka, president; Henry Kickler, vice-president; Millia Kuehlik, secretary-treasurer; will develop about 30 acres of gravel bar in Colorado River; daily capacity, 20 cars of gravel; machinery supplied; J. O. Tanner, engineer in charge.

MISCELLANEOUS CONSTRUCTION

Ark., Crittenden County.—Levee.—St. Francis Levee Board awarded contract to Lowrance Bros. & Co., Memphis, Tenn., at \$106,262.80 to enlarge eight miles of levee extending from Mound City, Ark.; B. G. Covington, chief engineer Levee Board, Memphis, Tenn. (Recently mentioned.)

Ga., Augusta.—Jetty Work.—Government awarded contract to Simons-Mayrant Company, Charleston, S. C., to repair jetties from Augusta to near Mearns, about 10 miles; work will include placing new piles where necessary and filling in between jetties with brush mattresses and placing cover of rock; estimated cost, \$80,000 to \$90,000.

Ky., Heidelberg.—Lock and Dam.—Gahren, Dodge & Malby, 29 Broadway, New York, have contract to construct Government lock and dam No. 14 on Kentucky River; cost about \$315,000; have closed contracts for materials. (Recently named as lowest bidders.)

La., Abbeville.—Wharf.—Town will construct wharf. Address Town Clerk.

La., Belair.—Levee.—State Board of Engineers, V. M. Lefebvre, president, New Orleans, La., awarded contract to Dameron & White, New Orleans, La., to construct levee at Belair, West Baton Rouge parish, and to Clark & Helgason Bros., Vicksburg, Miss., to construct levee at Levert, Iberville parish; former is estimated to be 1500 feet long and require 50,000 cubic yards of earth; latter to be 7500 feet long and require 240,000 cubic yards of earth. (Recently mentioned.)

Mo., St. Louis.—City will receive bids until August 15 for rement of river bank of city property. Address Board of Public Improvements. (See "Machinery Wanted.")

Va., Norfolk.—River Tunnel.—Norfolk Tunnel Corporation chartered with \$25,000 nominal capital stock and plans to construct tunnel under Elizabeth River, connecting Norfolk and Portsmouth; president, C. P. E. Burgwyn; vice-president, George H. Whitfield; secretary-treasurer, George M. Wilson; all of Richmond, Va. Colonel Burgwyn wires to Manufacturers Record: "Nothing will be given out regarding plans of corporation; when engineers' reports and surveys are completed, and if favorable, we will give full information. This preliminary work will occupy several months."

Va., Norfolk.—Dry-dock.—Navy Department, Washington, D. C., may recommend construction of dry-dock at Norfolk or New York; tentative plans contemplate dock 1000 feet long, 110 feet beam and 34 feet deep; now enlarging present Norfolk dock, as previously announced, and will complete by September 15; Beckman Winthrop, Acting Secretary of Navy, writes to Manufacturers Record: "Department has not yet decided to build a large drydock at Norfolk."

W. Va., Wheeling.—Concrete Walls.—Ohio county will construct two concrete walls, one on Caldwell's Run and other on G. C. & P.; bids received until August 14; A. S. Bell, County Engineer. (See "Machinery Wanted.")

W. Va., Wheeling.—Retaining Wall.—Ohio County Commissioners awarded contract to L. G. Hallock, Son & Co. of Wheeling to construct retaining wall leading to new bridge at Woodsdale; contract includes excavation work.

MISCELLANEOUS ENTERPRISES

Ala., Mobile.—Engraving.—Mobile Engraving Co. incorporated with \$2000 capital stock; J. W. Paige, president and general manager; Charles H. Allen, vice-president; Reginald G. Rapier, secretary-treasurer.

Ala., Sheffield.—Garage.—Tri-Cities Garage Co. incorporated with \$20,000 capital stock; E. E. Doud, president and secretary-treasurer; E. C. Carter, vice-president and general manager.

Ark., Clarksville.—Grain Elevator, etc.—Laser Grain Co., Samuel Laser, president, will expend \$5000 to erect grain elevator and corn mill; ordinary construction; elevator to have capacity of 10,000 bushels of grain; plans by C. C. Alibritten, Clarksville; machinery will include cornsheller, burr mill, chop mill, corn rolls, etc.; building to be completed in 30 days; contract recently reported awarded.

Fla., Tampa.—Publishing.—W. F. Stovall, owner, awarded contract to B. H. Davidson of Tampa to erect three-story addition and improve present building of Tampa Morning Tribune; James McGucken has contract for brick work; A. H. Johnson of Tampa prepared plans and will supervise construction.

Fla., Tampa.—Contracting.—Parker Engineering & Construction Co. organized to contract for erection of fireproof buildings, etc.; E. W. Parker is president and general manager; C. T. Friend, secretary-treasurer, and F. C. Gerald, engineer; offices 213-214 Curry Bldg.

Fla., Tampa.—Oil-distributing Plant.—The Texas Company, Houston, Tex., leased site 200 feet wide by 1000 feet long on Seddon Island and will erect tanks, warehouses, etc.; George M. Falk is local superintendent.

Ga., Milledgeville.—Garage.—Robert H. McComb and Homer Thompson will erect garage and machine shop.

Ga., Milledgeville.—Publishing.—News Printing Co. incorporated with \$6000 capital stock by J. C. McAuliffe, H. E. McAuliffe, J. O. Bloodworth, W. B. Hutchings, E. E. Bell and others.

Ky., Louisville.—Fire-alarm System.—Board of Public Works will soon invite bids for equipping third floor of city hall annex as headquarters for underground fire-alarm system; headquarters are to be removed from engine-house No. 2; James Clark, Jr., & Co. of Louisville have contract to lay proposed underground fire-alarm system between river and York St.; total estimated cost, \$75,000.

Ky., Louisville.—Laundry.—Crystal Standard Laundry incorporated with \$25,000 capital stock by F. A. Asmuth, Thomas H. Asmuth, Eugene Perkins and George H. Carter.

La., New Orleans.—Publishing.—Mercurio Publishing Co. incorporated with \$20,000 capital stock; Leon C. Simon, president; Jessie S. Cave, vice-president; L. S. Goldstein, treasurer.

Mo., Kansas City.—Electric Installation.—Western Electric Installation Co. incorporated with \$5000 capital stock by William L. Hall, Ben F. Shambaugh and John B. Young.

Mo., St. Louis.—Construction.—Bergendahl-Bass Engineering & Construction Co. incorporated with \$5000 capital stock by Gustave Bergendahl, John W. Bass and Robert McCaipin.

Mo., St. Louis.—Automobiles.—Overland Automobile Co. incorporated with \$10,000 capital stock by H. D. Condie, T. L. Hausmann and C. P. Eberle.

N. C., Greensboro.—Publishing.—Daily News will equip building, to be erected at E. Market and North Davis Sts., as newspaper plant; cost of building, \$12,000.

Okla., Muskogee.—Automobiles.—Roberts Motor Car Co. incorporated with \$5000 capital stock by A. B. Roberts, J. V. Thomas and E. J. Phelps.

Okla., Muskogee.—Printing.—Republican Printing Co. incorporated with \$10,000 capital stock by Charles E. Crager, George C. White and Edward Merrick.

Okla., Muskogee.—Hudson Motor Sales Co. incorporated with \$5000 capital stock by J. V. Thomas, E. J. Phelps and C. A. Lockard, Jr.

S. C., Saluda.—Garage.—Eugene W. Able will receive bids for erection of garage and shop; two stories; 50x150 feet; plans and specifications on file with Mr. Able; material furnished by owner.

S. C., Charleston.—Abattoir.—Charleston Abattoir Co. incorporated with \$30,000 capital stock by William J. Storen and Edward W. Hughes; will erect abattoir; two stories; brick; cement floors; estimated cost, \$30,000. (Recently mentioned.)

Tenn., Chattanooga.—Printing.—Chattanooga Times Co. awarded contract to Hahn Building & Construction Co. of Chattanooga to erect addition to printing plant; three stories; front of buff brick with stone trimmings; will be occupied by job-printing department; site has frontage of 50 feet; plans by Adams & Alsop of Chattanooga. (Recently mentioned.)

Tenn., Memphis.—Plumbing.—Burmeister Plumbing Co. incorporated with \$2500 capital stock by F. A. Burmeister, Percy R. Todd, J. N. E. Holmes and others.

Tex., Smithville.—Steam Laundry.—Garrett & Courtney of Bartlett, Tex., have decided not to erect steam laundry recently reported.

Tex., Teague.—Printing.—Teague Chronicle purchased Lawhorn Bldg.; will remove structure to new location, where it will be enlarged, remodeled and equipped as newspaper plant.

Va., Rosslyn.—Automobiles.—Marion Motor Car Co. incorporated with \$10,000 capital stock; Geo. O'Donnell, president; R. N. Harper, vice-president; J. C. Kidgway, secretary and treasurer.

Va., Roanoke.—Mineral Water.—White Springs incorporated with \$10,000 capital stock; L. A. Scholz, president; Henry Scholz, secretary-treasurer.

Va., Roanoke.—Publishing.—Times Investment Co., Edward L. Stone, president, will erect building to be equipped for publishing Roanoke Times and Evening Times; structure will probably be 50x102 feet.

Va., Staunton.—Laundry.—New Method Laundry Co. incorporated with \$15,000 capital stock; I. O. Straughen, president; Little Straughen, general manager; H. F. Lantz, secretary and treasurer.

W. Va., Princeton.—Construction.—Brown-Holt-Saunders Construction Co. incorporated with \$10,000 capital stock by W. A. Brown, R. W. Brown, R. E. Holt, Otho E. Holt, I. F. Saunders and Clea Saunders.

MISCELLANEOUS FACTORIES

Ala., Andalusia.—Turpentine.—Henderson-Mathews Turpentine Co. incorporated with \$19,000 capital stock by Fox Henderson, J. D. Henderson and G. O. Wait.

Ala., Birmingham.—Polish.—American Polish Co. incorporated with \$2000 capital stock; L. F. Moore, president, Birmingham; A. T. Reeves, secretary, treasurer and general manager, Selma, Ala.

Ala., Birmingham.—Food Products.—Alabama Company incorporated with \$2000 capital stock; John W. Fain, president and treasurer; Otto K. Lucas, secretary.

Ala., Decatur.—Pearl Buttons.—B. P. McDermitt, Muscatine, Iowa, contemplates establishing pearl-button factory.

Ark., Hickory Ridge.—Rice.—Buck Head Rice Co. incorporated with \$100,000 capital stock to establish unpolished rice factory; later erect additional plants; C. B. Richmond, president, St. Louis, Mo.; R. E. Ewen, vice-president, Fisher, Ark.; William A. Thompson, secretary-treasurer, Hickory Ridge; subsidiary corporation of Buck Head Rice Co. of New York.

Fla., Auburndale.—Glass.—J. A. Wilkinson, Columbus, O., contemplates, it is reported, establishment of glass works.

Fla., Tampa.—Brushes, etc.—Tampa Brush & Specialty Co., E. P. Schlect, president and manager (recently reported incorporated with \$15,000 capital stock), will erect building; two stories; 70x70 feet; mill construction; cost \$5000; bids received September 1 for machinery, including planer, band saws, sandpapering machine, edger, etc. (See "Machinery Wanted.")

Ga., Atlanta.—Beverages.—Southern States Beverage Co. incorporated with \$200,000 capital stock by R. A. Monteth and others.

Ga., Atlanta.—Syrup Refinery.—Garner-Blakely Company, John S. Garner, president, Bainbridge, Ga. (recently noted to have purchased site for refinery), will expend \$3000 to \$5000 for improvements to 40x70-foot building with basement; two stories; ordinary construction; daily capacity of plant two cars refined syrup. (See "Machinery Wanted.")

Ga., Atlanta.—Envelopes.—International Safety & Handy Envelope Co. incorporated with \$100,000 capital stock by John W. Vandegriff, J. Campbell, George C. Garner and Mae Vandegriff.

Ga., Macon—Bakery.—American Bakeries & Candy Co., Birmingham, Ala., is considering establishment of bakery; reported cost \$100,000.

Ga., Waycross—Naval Stores.—Lake City Naval Stores Co. incorporated with \$100,000 capital stock by R. T. Hitch and J. G. Blain of Waycross and L. T. Creech, Quitman, Ga.

Ky., Louisville—Bottling Works.—Louisville Bottling Works incorporated with \$10,000 capital stock by Samuel Bordofsky, Simon Bordofsky and I. M. Klein.

Ky., Louisville—Bakery.—Daily Bread Co. incorporated with \$2500 capital stock by R. G. Tippet, M. E. King and Rogers King.

Ky., Louisville—Fire-fighting Appliances.—Adams Fire Fighting & Instrument Co. incorporated with \$100,000 capital stock; will make specialty of manufacturing appliances for extinguishing forest fires; C. M. Pate is in active charge.

Ky., Paducah—Chemicals.—Hill Chemical Co., George L. Hill, general manager, Cave-in-Rock, Ill., will establish plant.

La., Bogalusa—Creamery.—Harry D. Wilson, Roseland, La., is promoting establishment of creamery.

La., Estherwood—Syrup.—G. W. Caldwell, Mendenhall, La., contemplates construction of syrup mill.

La., New Orleans—Poultry Coop.—Mohr Folding Coop Co. will be incorporated with \$50,000 capital stock to manufacture patented folding coop; framework and bottom to be of cottonwood and sides and top of galvanized wire; Theodore P. Mohr, president; Frank Shinnott, vice-president; W. W. Fisk, secretary-treasurer.

La., Shreveport—Trunks, etc.—Kidd-Russ Trunk & Bag Co., R. D. Kidd, president, will establish plant to manufacture trunks, etc.; main offices, 522 Texas St.

La., New Orleans—Vinegar, etc.—J. J. Garvey Company incorporated with \$10,000 capital stock to manufacture vinegar, import and roast coffee, etc.; James Garvey, president; Eugene B. Hyman, vice-president; Bernard E. Hyman, secretary-treasurer.

Md., Baltimore—Bakery.—M. Yearley, 118-120 E. Baltimore St., will remodel and equip warehouse at 107 N. Howard St. as bakery; work begun.

Md., Baltimore—Drugs.—Vie Veer Chemical Co. incorporated with \$15,000 capital stock by Andrew J. Wiegand (president Vie Veer Hair Tonic Co.), 413 St. Paul St.; William Purnell Hall and Edward C. Sandell.

Md., Baltimore—Lime.—Chesapeake Shell Co. incorporated with \$18,000 capital stock by Germanus France, 2520 E. Baltimore St.; William Chapman and George J. Thaler; will grind and pulverize oyster and other shells.

Md., Baltimore—Brooms.—S. A. Ripple & Bro., 1296-1298 Ridgely St., will establish broom factory; building to be 22x29 feet; brick; cost about \$1200; plans by Henry S. Rippet, 1-7 Clay St., Baltimore.

Md., Smithsburg—Fruit.—Smithsburg Fruit Cooperage & Evaporating Co. incorporated with \$1000 capital stock to evaporate and handle fruit and manufacture barrels; capital stock is to be increased to \$15,000; D. J. Reecker, president; R. B. Brown, vice-president; E. G. Frost, manager; W. D. Brenner, secretary-treasurer; will erect 100x35-foot buildings; bids closed; machinery purchased.

Miss., Gulfport—Alcohol.—Premier Alcohol Co. of New York is corresponding with Gulfport Commercial Union relative to establishment of plant.

Mo., Columbia—Penter-Dowden Manufacturing Co. incorporated with \$10,000 capital stock by W. P. Dowden, E. E. Penter and E. E. Moreland.

Mo., St. Louis—Shirts.—Rice-Stix Dry Goods Co. will erect shirt factory; fireproof; five stories; cost \$70,000.

Mo., St. Louis—Medicine.—Edgar Roberts Manufacturing Co. incorporated with \$130,000 capital stock by Edgar Roberts, H. Converse and George Supernowski; leased building at 210 Walnut St., which is two-story building with 23,500 square feet floor space and equipped with electric plant.

Mo., St. Louis—Trucks.—St. Louis Truck & Manufacturing Co. incorporated with \$5000 capital stock by Frank G. Koehler, Rosa A. Koehler and George H. Martin.

Mo., St. Louis—Chemicals.—Mallinckrodt Chemical Co. will remodel and enlarge factory; cost \$7000.

N. C., Elizabeth City—Gas.—North Carolina Gas Co., James Gamble, treasurer, has office at 15 William St., New York; company's plans not ready to be announced. (Recently noted incorporated with \$100,000 capital stock.)

N. C., Henderson—Automobiles.—Corbitt Automobile Co., R. J. Corbitt, president, will incorporate with \$250,000 capital stock to continue established plant; plans for building, machinery, etc., not determined. (Mr. Corbitt recently noted as promoting organization of company.)

Okla., Sapulpa—Oil Tank Protector.—Oil Tank Protector Co. incorporated with \$10,000 capital stock by W. J. Donnell, E. C. Wallace and Ethelred Smith.

S. C., Westminster—Marble Works.—Westminster Marble & Granite Co. organized by W. E. Rhyne and Y. E. Pitts to establish marble and granite plant. (See "Machinery Wanted.")

Tenn., Memphis—Chemicals.—Forest Products Chemical Co. incorporated with \$100,000 capital stock by James Lawrence, B. L. Mallory, James S. Warren, Frank N. Fisher and W. A. Percy.

Tenn., Watauga—Bottling Works.—Watauga Bottling Works incorporated with \$5000 capital stock by Nat T. Perry, Lon Henrickson, C. H. Hunter, Roy A. Slagle and C. R. Clark.

Tex., Beaumont—Gas.—Beaumont Gas & Light Co., M. T. Walker, manager, awarded contract to O. C. Herringkind of Beaumont to erect two buildings; one structure to be one story, 50x75 feet, and other two stories, 40x50 feet; brick and concrete; tile roofs; mission style; concrete floors.

Tex., Dallas—Macaroni.—Dallas Macaroni & Paste Manufacturing Co. (recently reported incorporated with \$15,000 capital stock) has secured building at 2501 Wall St. and will equip for manufacturing macaroni; machinery ordered.

Tex., Houston—Art Glass.—Texas Art Glass Co. increased capital stock from \$21,000 to \$50,000.

Tex., Waco.—Chattanooga Overall Co., Chattanooga, Tenn., will establish factory; building to be erected; equipment, 246 machines; new company to be known as Longley Clothing Manufacturing Co.

Va., Buena Vista—Paper.—Buena Vista Stationery Manufacturing Co. will install additional machinery.

Va., Lynchburg—Overalls.—Jobbers' Overall Manufacturing Co., A. C. Barrow, president, Blackstone, Va., will establish overall factory; 125 to 150 machines; annual output 30,000 dozen to 50,000 dozen overalls; will acquire certain machinery from De Witt-Wharton Manufacturing Co. and rent building.

Va., Norfolk—Foutry Medicine.—Wallace Denmead Company incorporated with \$25,000 capital stock; C. R. Wallace, president; A. W. Macnair, vice-president; J. H. Denmead, Jr., secretary and treasurer.

Va., Richmond—Syrup.—Virginia Syrup Co. incorporated with \$25,000 capital stock; W. H. Lyre, president; C. L. Northrup, vice-president; J. F. Leonard, secretary and treasurer.

W. Va., Charleston—Shaving Preparation.—Older-Smith Chemical Co. incorporated with \$25,000 capital stock by C. A. Sullivan, P. A. Haley, A. C. Calderwood, G. R. Blake and H. G. Young.

W. Va., Clarksburg—Art Glass.—Benko Antique Art Glass Co. incorporated with \$25,000 capital stock by Virgil L. Highland, Sherman C. Benham, Charles S. Smiley and others.

W. Va., Davis—Bakery.—Pure Food Baking Co. organized with B. T. Walters president, W. Hoffman vice-president, O. H. Dugman secretary-treasurer. (See "Machinery Wanted.")

W. Va., Wheeling—Dairy Utensils.—Fay Correlated Churn Co. incorporated with \$50,000 capital stock by Joseph E. Robinson, James M. Noble, William McCannan, W. R. Covert and others.

W. Va., West Union—Window Glass.—Doddridge Window Glass Co. awarded contract to Richard Hurley, West Union, to erect factory; occupy one acre of land; J. J. Foely, president; S. P. Smith, vice-president; L. R. Carter, Jr., secretary; R. J. McConnell, treasurer; Robert Murphy, manager. (Previously noted incorporated with \$75,000 capital stock.)

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Ala., Montgomery.—Atlantic Coast Line Railway, E. B. Pleasants, chief engineer, Wilmington, N. C., will, it is reported, install 85-foot electric turntable in shops at West Montgomery.

Fla., Tampa.—Seaboard Air Line Railway will, it is reported, soon begin extensive improvements to Seddon Island terminals, including enlargement of dock facilities from

one to four large vessels, erection of phosphate elevator, installation of phosphate elevator, etc. Referring to report, W. L. Seddon, company's chief engineer, Portsmouth, Va., wires Manufacturers Record: "Have no advices as to terminal improvements at Tampa."

Ga., Waycross.—Atlantic Coast Line Railway, E. B. Pleasants, chief engineer, Wilmington, N. C., will, it is reported, install new machinery, lengthen yards and yard tracks, etc.; cost \$50,000 to \$60,000.

La., Addis.—Texas & Pacific Railway Co. advises that no appropriation has been made for division shops recently reported; B. S. Wathen, chief engineer, Dallas, Tex.

N. C., Southport.—Wilmington, Brunswick & Southern Railroad Co., Z. W. Whitehead, president, Wilmington, N. C., writes to Manufacturers Record: "We shall have adequate terminal facilities at Southport for coaling and other interests."

ROAD AND STREET WORK

Ark., Helena.—City contemplates paying about 10 blocks on Biscoe and Arkansas Sts. Address The Mayor.

Ark., Marianna.—Lee county is arranging for construction of roads; \$100,000 bonds issued. Address County Commissioners.

Ark.-Tex., Texarkana.—Miller County Levy Improvement Association, Dr. R. H. T. Mann, president, has engineers making preliminary surveys as to cost of construction of road for which Legislature recently authorized issuance of \$300,000 of bonds.

Ark.-Tex., Texarkana.—Miller county contemplates issuing \$500,000 of bonds for construction of roads. Address County Commissioners.

D. C., Washington.—Commissioners District of Columbia ordered resurfacing of following streets by "burner method": 6th St. N. W., from I to M St., estimated cost \$1500; 21st St. N. W., from I to M St., cost \$1350; 22d St. N. W., from P St. to Massachusetts Ave., cost \$1650; 1st St. N. W., from Rhode Island Ave. to Bryant St., cost \$6000; west side of New Jersey Ave. N. W., from C to D St., cost \$3525; 3d St. N. W., from H to K St., cost \$3255, etc.

Ky., Louisville.—City will pave Burnett Ave. from Hickory to Texas Sts. and Everett Ave. from Cherokee Parkway to Midland with vitrified blocks; cost about \$3500; Board of Public Works will open bids August 8.

Ky., Lexington.—City awarded contract to Carey & Reed to reconstruct section of South Broadway; also to Central Construction Co. for another section of South Broadway, and for concrete sidewalks on Spring St. from Main to Vine St.; John Skain, Mayor. (Recently mentioned.)

Ky., Tompkinsville.—Mourne county will construct road from Tompkinsville to Otta, Ky., about eight miles; estimated cost, \$25,000. Address County Commissioners.

La., Crowley.—City awarded contract to De Jersey & Barnard (not De Jersey & Ellison as recently reported) of Crowley to construct four-foot cement sidewalk on 260 blocks; \$60,000 available; material and machinery purchased; John D. White of Crowley, engineer in charge.

La., Shreveport.—City awarded following contracts for street paving: General Paving Co., Hot Springs, Ark., 13,000 yards brick paving at \$27,829; 53,000 yards wood block at \$18,720; 50,000 yards sheet asphalt at \$85,000; 52,000 yards asphaltic concrete at \$85,280; 3000 yards concrete at \$4292; Chatwin Bros. Rip-Rap & Contracting Co. of Shreveport for 7000 yards concrete at \$11,340; Southern Bitulithic Co., Nashville, Tenn., 8000 yards sheet asphalt at \$14,400, and 22,000 yards asphaltic concrete at \$36,300.

Md., Cumberland.—City will pave Ann St. from Park St. to Maryland Ave. Address The Mayor.

Md., Cambridge.—Dorchester county will construct two roads from Cambridge to lower Dorset, roads to Toddville and Hooper's Island. Address County Commissioners.

Md., Towson.—Baltimore county will improve four miles of road between Cockeysville and Hereford; S. V. G. Shirley, roads engineer, will supervise work; no contract.

Miss., Brookhaven.—City contemplates paving one mile of streets in business district and graveling four and one-half miles. Address The Mayor.

Miss., Ellisville.—Jones county will construct concrete sidewalks around and upon courthouse square at Ellisville and Laurel; bids to be received until August 7; J. H. Crawford, Clerk. (See "Machinery, etc., Wanted.")

Mo., Independence.—Jackson County Commissioners awarded contract as follows for ditching 16 miles of rock road: George W. Shaw, Spring Branch Rd. from city limits to end of macadam in Blue Hill section, east of Independence, eight miles; Ray Self, Atherton Rd. from point on Lexington Rd. to Atherton and Blue Mills Rd. from Atherton Rd. to Blue Mills, total of eight miles.

N. C., Asheville.—N. Buckner, secretary Board of Trade, advises that plans are being made to build automobile road to Mountain Meadows Inn, six miles distant.

N. C., Morehead City.—Carteret Central Highway Co. incorporated with \$25,000 capital stock by E. H. Gorham, G. D. Canfield and J. B. Martin to construct road from Morehead City to Craven county line, which will be section of central highway that is to be built length of State from Morehead City to Tennessee line.

N. C., Sanford.—Lee county contemplates voting on \$100,000 bond issue for road construction. Address County Commissioners.

Okla., Altus.—City awarded contract to P. S. Kaul, Kansas City, Mo., at \$162,354.30 to pave 20 blocks of business district with bitulithic; Blair L. Boyle, City Engineer. (Call for bids lately noted.)

Okla., Hugo.—Choctaw county contemplates voting on \$350,000 bond issue for road construction. Address County Commissioners.

Okla., Hugo.—City contemplates additional street paving. Address The Mayor.

S. C., Greenville.—City will pave West Washington St. from Main to Academy St. under supervision of T. C. Page.

Tenn., Chattanooga.—Hamilton County Good Roads Commission awarded contract to West Construction Co. of Chattanooga at \$75,128 to pave Whiteside and Main Sts. and Georgia Ave. in St. Elmo with sheet asphalt. Edward D. Bass, chairman of commission. (Call for bids lately noted.)

Tenn., Cookeville.—Company is being organized to construct toll road from Celina, Tenn., to Cookeville via Hillman, Tenn.; plans not fully made; will cross four streams requiring spans of 100 feet to 120 feet each; R. J. Moscrip recently noted to have completed surveys.

Tenn., Johnson City.—City Council rejected bids for 1½ miles of street paving and will invite new bids within 30 days; W. M. Dunlap, City Commissioner. (Recently mentioned.)

Tenn., Kingston.—Roane County Commissioners voted to expend \$25,000 for road construction.

Tenn., Knoxville.—Road Commission instructed Mr. Pearsall, County Engineer, to invite bids for resurfacing of Straw Plains pike; seven miles.

Tenn., Knoxville.—Knox County Road Commission awarded contract to J. U. Burkhardt of Knoxville to repair Sevierville and Tazewell pikes; appropriated \$5000 for former and \$3000 for latter.

Tenn., Rogersville.—Hawkins county will vote August 19 on \$200,000 bond issue for grading, macadamizing and improving roads. Address County Commissioners.

Tenn., Waverly.—Humphreys County Commissioners appropriated \$25,000 for construction of link through county of Memphis-to-Bristol highway.

Tex., Amarillo.—City voted \$10,000 bond issue for street paving. Address The Mayor. (Recently mentioned.)

Tex., Cameron.—Precinct No. 1 of Milam county will vote September 1 on \$100,000 bond issue for construction of 50 miles of road. Address County Commissioners.

Tex., Coleman.—City will vote August 12 on \$25,000 bond issue for street improvements. Address The Mayor.

Tex., Dallas.—Dallas county voted \$500,000 bond issue for road and bridge construction. Address County Commissioners. (Recently mentioned.)

Tex., Joquin.—Joaquin district of Shelby county voted tax for road improvements. Address County Commissioners, Center, Tex.

Tex., Longview.—City will construct about 17,000 square yards pavement; material to be either brick or cressed wood blocks; bids received until August 11; Aetna Engineering Bureau, consulting engineers, 17 N. LaSalle St., Chicago, Ill.; G. D. Bodenheimer, Mayor. (See "Machinery Wanted.")

Tex., Marlin.—City voted bond issue for street paving. Address The Mayor.

Va., Alexandria.—City will pave sections of Washington, Patrick, Duke and Cameron Sts. Address The Mayor.

Va., Norfolk.—Edward Olcott of Manassas, Va., submitted proposition to Norfolk; Board of Control to pave Church St. from Main to Goff St. with present granite block and

white-oak blocks, every other row of each material, for \$33,000; W. T. Brooke, City Engineer.

Va., Richmond.—City will lay granolithic curbs and gutters in Oakwood and Maury cemeteries; bids received until August 2; John R. Billey, chairman committee on cemeteries.

Va., Wise.—Wise County Commissioners awarded contract to W. A. Brown, Princeton, W. Va., to construct 10 miles of road between Wise county courthouse and Crane's Nest.

Va., Wise.—Wise County Commissioners will construct 272,000 square yards of macadam road; roadbed already graded in groups; contract for portion of road (recently noted) awarded; P. St. J. Wilson, State Highway Commissioner. (See "Machinery Wanted.")

W. Va., Bluefield.—Board of Affairs awarded contract to Maurice Long to grade and macadamize South Bland St. from end of present paving to Bowyer St. (Call for bids lately noted.)

W. Va., Benwood.—City awarded contract to Pickett & Shannafelt, Martins Ferry, O., to pave 1st St. from Jacob to Water St.; 1400 square yards; cost \$1060; C. C. Smith, Wheeling, W. Va., engineer; Paul A. Dechan, City Clerk. (Call for bids lately noted.)

W. Va., Follansbee.—City voted \$17,000 bond issue for street paving. Address The Mayor.

SEWER CONSTRUCTION

Ala., Fayette.—City voted \$22,000 bond issue for construction of sewer system and water-works; County Board of Revenue appropriated \$3000, making \$25,000 available. Address The Mayor. (Recently mentioned.)

Ark., Prescott.—City has engaged James W. Beebe, Poteau, Okla., to prepare plans and specifications for sanitary sewer system recently noted; bids received August 9 for material and one week later for labor; M. W. Greason, secretary. (See "Machinery Wanted.")

Ark., Warren.—Warren Training School will install septic tank; Dickinson & Watkins, Little Rock, Ark., prepared plans.

Fla., South Jacksonville.—Board of Bond Trustees will construct sanitary sewer system; bids received until 4 P. M. August 24; William W. Lyon, consulting engineer, 305 Duval Bldg., Jacksonville, Fla.; W. W. Swaim, chairman. (See "Machinery, etc., Wanted.")

Ga., Lawrenceville.—City will vote August 23 on \$15,000 bond issue for construction of sewers; J. B. McCrary Company, 1311 Empire Bldg., Atlanta, Ga., engineer.

Ga., Savannah.—City Council authorized \$500,000 bond issue for construction of house and storm-drainage system; work will include covering of Bilbo Canal to Perry St.; city will vote in November; total estimated cost, \$440,000; J. W. Howard, City Engineer. (Recently mentioned.)

Ga., Statesboro.—City will vote on \$40,000 bond issue for construction of sewers; plans prepared by J. B. McCrary Company, 1311 Empire Bldg., Atlanta, Ga. (Recently noted.)

Ky., Henderson.—City will install plant to pump sewage to Ohio River; Waring system; cost \$25,000; plans not determined; W. I. Thompson, Mayor.

La., Lafayette.—City will invite West Construction Co., Chattanooga, Tenn., to submit outlines for sewerage system; company some time ago applied for franchise.

La., Lake Charles.—City will construct 32 miles of 24-inch to 6-inch clay pipe sewers (recently noted), with pumping station, etc.; bids received until September 11; plans on file with A. A. Wentz, Secretary; W. G. Kirkpatrick, engineer, Jackson, Miss. (See "Machinery Wanted.")

Mo., Kansas City.—Board of Public Works awarded contract to William C. Mullins at \$92,187 to construct combined storm and sanitary sewer; entirely of concrete; diameter will vary; interceptor to be placed in duct at 45th St. and Garfield Ave.; will cause sanitary sewage from big sewer to empty into Brush Creek sewer when latter is completed.

Mo., Shelbina.—City will probably receive bids about August 17 for construction of sewer system and water works; Burns & McDonnell, Scarritt Bldg., Kansas City, Mo., engineers; date of opening bids for machinery not let. (Recently noted.)

N. C., Chapel Hill.—City awarded contract to Streeter & Anderson, Gaffney, S. C., to construct two and one-half miles of sewerage; Gilbert C. White, Durham, N. C., engineer. (Recently noted.)

Okla., Tulsa.—City awarded contract to E. G. Fike & Co. at \$9237.97 and C. O. Frye &

Son at \$6688.29 to construct sanitary trunk sewer from Owasso Ave. to river; T. C. Hughes, City Engineer. (Recently mentioned.)

Tenn., Tullahoma.—City contemplates voting on bond issue for construction of sewer system. Address The Mayor.

Tex., Amarillo.—City voted \$15,000 bond issue for extension of sewer system. Address The Mayor. (Recently mentioned.)

Tex., Dallas.—J. M. Preston, City Engineer, is preparing plans for underground storm sewer to cost \$30,000 to \$40,000.

Va., Norton.—City awarded contract to John Jenkins Norton at \$21,322 to complete 6½ miles of sewer system; Scarborough & Dotson, Norton, engineers in charge. (Recently noted.)

TELEPHONE SYSTEMS

Ala., Linden.—Linden & Nanafalia Telephone Co. incorporated with \$2000 capital stock by A. L. Hasty, W. C. Dozier and B. F. Gilder.

Ark., Hot Springs.—Southwestern Telegraph & Telephone Co. (main offices, Dallas, Tex.) will erect three-story building.

Ky., Lackey.—Beaver Valley Telephone Co. incorporated with \$6000 capital stock by John Camel, T. J. Craft, Lark Stone and M. M. Pratt.

Ky., Winchester.—East Tennessee Telephone Co. will construct about 20 miles of telephone lines; C. V. Birdwell, Clark county manager.

N. C., Shallotte.—Seaside, Shallotte & Wilmington Telephone Co., Walter Leonard, secretary, Supply, N. C., will construct 45 miles of telephone line previously noted; bids received until August 25. (See "Machinery Wanted.")

Okla., Tahlequah.—Tahlequah-Peggs Telephone Co. incorporated with \$3000 capital stock by W. D. Harrison, H. P. Fisher and Jonas Still, all of Gideon, Okla.

S. C., Simpsonville.—Home Telephone Co. incorporated with \$2000 capital stock by W. D. Fowler, F. D. Hunter and S. L. Richardson.

Tex., Palacios.—Coast Telephone Co., H. W. Dean, general manager, will make improvements and extensions to telephone line; has exchanges at Palacios, Blessing, Markham and connections with Midfield and Francitas, Tex. (Recently noted incorporated with \$35,000 capital stock.)

TEXTILE MILLS

Ga., Atlanta.—Sheeting, etc.—Exposition Cotton Mills (referring to proposed enlargement) wire to Manufacturers Record: "Our plan is to install 10,000 additional spindles, with preparatory machinery and looms; will erect weave shed about 100x300 feet; expect to close machinery contracts about August 15; now has 56,000 ring spindles, 1512 looms, etc. (See "Machinery Wanted.")

N. C., Durham.—Hosiery.—Chatham Knitting Mills Co. has erected building to replace burned structure, repaired damaged machinery and installed new equipment; will experiment with several makes of knitting machines before placing further orders. (Recently mentioned.)

Tenn., Knoxville.—Cotton Yarns.—Knoxville Spinning Co. chartered with \$40,000 capital stock by E. G. Oates, T. A. Wright, L. G. Fisher and others. (Lately reported as installing equipment.)

Tex., Dallas.—Cotton Waste.—Ajax Waste Mills will rebuild recently-burned plant; erect 40x200-foot brick (fireproof) and 40x120-foot galvanized-iron buildings; cost about \$7000; architect and contractor, W. R. Wright of Dallas; install machinery for manufacturing cotton waste; Wm. Burr will own the buildings.

Tex., El Paso.—Cotton Cloth, etc.—American Exploration & Holding Co. plans organization of stock company to erect cotton spinning and weaving mill, bleachery, calico printing plant, and possibly silk mill; has determined no details and awarded no contracts. (See "Machinery Wanted.")

Tex., Galveston.—Cotton Waste.—Phoenix Waste Manufacturing Co. chartered with \$40,000 capital stock by Leonard Joseph, Ben Sass and Jules Block. Mr. Joseph was reported in June as having purchased Galveston Waste Mills and to add new machinery.

WATER-POWER DEVELOPMENTS

Ga., Columbus.—Columbus Power Co. awarded contract to Hardaway Construction Co. of Columbus to increase height of impounding dam at Goat Rock, Chattahoochee River, sufficiently to provide head of 70 feet; length, 1200 feet; cyclopean concrete; con-

struction begun; initial development, 1200 horse-power; ultimate capacity, 32,000 horse-power; cost of additional construction, \$1,000,000; Stone & Webster Engineering Co., 147 Milk St., Boston, Mass., is in charge. (Further facts lately noted.)

Tenn., Chattanooga.—Georgia Power Co. chartered with \$100,000 capital stock by H. P. Broughton (manager), J. E. Lellett, Lewis M. Coleman and others; is branch of Georgia Power Co. of Atlanta, Ga., now developing 200,000 horse-power in Georgia; latter company is constructing transmission lines to Rome, Ga., and proposes extending them to Chattanooga. (Georgia Power Co. plans, etc., previously fully detailed.)

Tenn., Etowah.—Etowah Water & Light Co. is planning to construct concrete dam and power-house; dam will be 300 feet wide and 25 feet high; concrete construction; capacity of power-house will be 300 kilowatts; bids not yet advertised; W. H. Price, general manager. (See "Machinery Wanted.")

WATER-WORKS

Ala., Fayette.—City voted \$22,000 bond issue for construction of water-works and sewer system; County Board of Control appropriated \$3000, making \$25,000 available. Address The Mayor. (Recently mentioned.)

Ala., Jackson.—City voted \$15,000 bond issue for water-works, city to furnish standpipe, mains and fire plugs and Bigbee Ice & Development Co. to furnish water and pumping power. (Recently mentioned.)

D. C., Washington.—Commissioners District of Columbia ordered following water mains laid: 190 feet 4-inch main in alley of square 2604; 250 feet 8-inch main in E St. N. E.; 415 feet 8-inch main in Woodley Rd. N. W., and 170 feet 8-inch main in 27th Pl. N. W.

Fla., South Jacksonville.—Board of Bond Trustees will construct water-works and electric-light plant; bids received until August 24; William W. Lyon, consulting engineer, 305 Duval Bldg., Jacksonville, Fla.; W. W. Swaim, chairman. (See "Machinery Wanted.")

Fla., Titusville.—City contemplates construction of water-works; has drilled eight-inch well.

Fla., Tampa.—Tampa Water-Works Co. is considering construction of tunnel under Hillsborough River to contain water mains connecting Hyde Park and adjoining sections with pumping plant.

Ga., Jackson.—City will vote on \$5000 bond issue for extension of water and electric-light systems. Address The Mayor.

Ga., Lawrenceville.—City will vote August 23 on \$35,000 bond issue for construction of water-works; J. B. McCrary Company, 1311 Empire Bldg., Atlanta, Ga., engineer.

Ky., Ashland.—Ashland Water Co. will install pump; contemplates other improvements.

Md., Baltimore.—City officials decided to construct dam 192 feet above mean tide about one-half mile above Loch Raven dam; this dam will be 22 feet higher than present one and will afford storage reservoir with capacity of 3,000,000,000 gallons; base is to be of sufficient breadth and strength to increase height to 237 feet; estimated cost, \$1,500,000; Water Board purchased 117 acres on Gunpowder River for about \$17,000 for impounding reservoir; plans previously prepared for impounding reservoir and 237-foot dam (which project has been abandoned) will be used in constructing 192-foot dam and reservoir; water from proposed dam will be carried through present 12-foot tunnel to filtration plant to be built at Lake Montebello; surveys and plans for filtration plant have been made and ground mainly purchased. (Susquehanna River plan, recently referred to, has been abandoned.) Alfred M. Quick, City Hall, is Water Engineer.

Md., Glen Echo.—City contemplates bond issue for construction of water-works. Address Mayor Witkowski.

Miss., Clarksdale.—Commissioners will drill six-inch artesian well at power-house; bids received September 5; plans and specifications on file with M. G. Boho, engineer. (See "Machinery Wanted.")

Mo., Cabool.—City will construct water-works; award contract about August 7. Address The Mayor. (Recently mentioned as contemplating \$9000 bond issue.)

Mo., Lamar.—Rollins & Westover, consulting engineers, Kansas City, Mo., are preparing plans, it is reported, for improvements to water-works and electric-light plant; estimated cost \$75,000.

Mo., Milan.—City awarded contract to Meyers Construction Co., St. Louis, Mo., at \$21,781 to construct water-works; dam of

25,000 cubic yards; John W. Bingham, Mayor. (Recently mentioned.)

Mo., Shelbina.—City will construct water-works and sewer system at cost of \$84,000; 400,000 gallons capacity; construct power-house, low-service pumping station, filter-house, settling basins and clear water well; will probably open bids about August 17; machinery will include boilers, steam pumps, engines, boiler-feed pumps, etc.; date of opening bids not determined; Burns & McDonnell, Scarritt Bldg., Kansas City, Mo., engineers. (Recently noted.)

N. C., Charlotte.—City's plans for extension of water-works to Catawba River will probably include 1000-horse-power steam and electric pumping station, 20,000,000-gallon reservoir and 24-inch main 11 miles long; new surveys will be made; Gilbert C. White, Durham, N. C., engineer in charge. (Recently noted.)

Okla., Hollis.—City voted \$50,000 bond issue for construction of water-works. Address The Mayor.

Okla., McAlester.—City rejected bids for construction of eight-inch pipe and for furnishing special duplex pump; dam is to be constructed at once; pipe line project abandoned; W. P. Halliday City Engineer. (Call for bids lately noted.)

Okla., Muskogee.—City (recently noted to construct Agency Hill reservoir) will receive bids until August 29 for furnishing and erecting pumping machinery; Alexander Potts, consulting engineer, 114 Liberty St., New York; T. P. Clonts, City Engineer. (See "Machinery Wanted.")

Okla., Muldrow.—City contemplates voting on bond issue and franchises for construction of water and electric-light systems. Address The Mayor.

Okla., Pawhuska.—City voted \$50,000 bond issue for water-works extension. Address The Mayor. (Lately noted.)

Tex., Alice.—City will vote August 31 on bond issue for construction of water-works. Address The Mayor.

Tex., Alvin.—Alvin Water, Light & Ice Co., P. H. Manaker, recently reported incorporated with \$20,000 capital stock by L. H. Wallis and others, has contracted with Lovegrove & Wyman, engineers, Houston, Tex., to construct water-works.

Tex., Henrietta.—City voted \$18,000 bond issue for construction of dam across Little Wichita River to form lake for water supply. Address The Mayor.

Tex., Mission.—City voted \$15,000 bond issue for construction of water-works. Address The Mayor.

Tex., Tenaha.—Town contemplates construction of water-works. Address Town Clerk.

Tex., Paris.—City will vote on \$35,000 bond issue for improvement of water-works. Address The Mayor.

Tex., Sherman.—City will install 180-horse-power and 170-horse-power engines to operate 700 feet two-stage compressor and small triplex pump; pump and compressor to be operated by belt from engine; all machinery purchased. (Recently noted.)

Tex., Waco.—City contemplates \$50,000 bond issue for improvements to water-works. Address The Mayor.

Va., Christiansburg.—City awarded contract to W. R. Reynolds, Chicago, Ill., at about \$34,000 to construct water-works; E. S. Hagan, Mayor. (Call for bids lately noted.)

Va., Weyer's Cave.—Town contemplates purchase of spring 1½ miles from town limits; appointed committee to investigate cost of installing ram for forcing water into reservoir and piping water to town. Address Town Clerk.

WOODWORKING PLANTS

Ark., Fayetteville.—Spokes.—W. A. Matthews & Co., Pine Bluff, Ark., will establish spoke factory.

Ky., Livermore.—Chairs.—Livermore Chair Co. incorporated with \$20,000 capital stock to establish chair factory.

Ky., Murray.—Staves and Headings.—N. L. Chrisman & Co. organized by N. L. Chrisman and others to manufacture tight-barrel staves and headings.

Md., Baltimore.—Boxes.—American Box Co. incorporated with \$10,000 capital stock by Harry C. Kaiben, 217 Courtland St.; William Kaiben and Ernest Ponkow.

Md., Baltimore.—Caskets.—Independent Casket Co., E. L. Bortner, president, 800 Hillen St., will open bids September 1 to erect factory at 603 N. Calvert St.; 20x117 feet; mill construction; cost \$25,000 to \$30,000; McLaughlin Bros., 915 Bolton St., Bal-

timore, probable contractors; cost of machinery \$3500. (See "Machinery Wanted.")

Md., Smithsburg—Barrels.—Smithsburg Fruit Cooperage & Evaporating Co. Incorporated with \$4000 capital stock; will manufacture barrels. D. J. Reecker is president. (See "Miscellaneous Factories.")

Mo., Moberly—Carriages and Wagons.—William Fennel will erect carriage and wagon factory.

Mo., St. Louis—Cigar Boxes.—Wiedemann-St. Louis Cigar Box Co. Incorporated with \$30,000 capital stock by Louis G. Twiehaus, Albert J. Stoessel, William A. Kreft, Frank Ahrenhoerster and others.

N. C., Asheville—Furniture.—F. S. Kennett will erect furniture factory; to occupy 3½-acre site.

Tenn., Chattanooga—Furniture.—A. G. Stivers Lumber Co. is continuation of planing mill and house-building material department of Loomis & Hart Manufacturing Co.; company not fully organized; plans not determined. (Recently noted Incorporated with \$15,000 capital stock by A. G. Stivers and others.)

Tex., Houston—Mill Work.—Texas Manufacturing Co. organized with Douglas Burnett, president and treasurer; B. F. Bonner, vice-president; R. W. Weir, secretary; continued established plant. (Recently noted Incorporated under "Miscellaneous Factories" with \$50,000 capital stock.)

Va., Grottoes—Flooring, etc.—Eutsler Bros. will expend \$2500 to erect building to replace burned structure recently noted under "Miscellaneous Enterprises;" 41x90 feet and 35x60 feet; concrete; plans and construction by owner. (See "Machinery Wanted.")

BURNED

Ala., Priceville.—E. M. Baldwin's store; loss \$5000.

Ala., Vina.—White Oak Hub Co.'s plant.

Ala., Mobile.—George A. Knopf's residence, loss \$3500; C. O. Meux's residence, loss \$3000.

D. C., Washington.—D. F. Groff's wallpaper store at 819 9th St.; loss \$15,000.

Fla., Jacksonville.—Colored Children's Rescue Home's main buildings.

Fla., Jacksonville.—Florida Milling Co.'s docks damaged several hundred feet; B. K. Barre, secretary-treasurer.

Ga., Helena.—D. L. McLaughlin's residence.

Ga., Homerville.—Peugler & Dickerson's building; R. G. Dickerson's building; loss \$30,000.

Ky., Louisville.—Klempner Bros.' warehouse, owned by W. C. Priest & Co.; loss \$6000.

Ky., Maysville.—W. B. Mathews & Co.'s saw and planing mills; loss \$15,000 to \$20,000.

Ky., Oscar.—Oscar Mercantile Co.'s store, loss \$4000; J. L. Mansfield's grist mill, loss \$700.

Miss., Waveland.—L. K. Nicholson's residence; loss \$18,000.

Mo., Clayville.—Mellon mansion, owned by S. R. Case; loss about \$20,000.

Mo., Clinton.—Bulte Mills Co.'s grain mill; loss reported as \$200,000; main office at Kansas City, Mo.

Md., Salisbury.—Houston Sons Company's box factory; loss \$10,000.

N. C., Asheville.—W. E. Merrell's store at 219 W. Haywood St. damaged; loss \$7000.

N. C., Durham.—Durham Steam Laundry and Model Steam Laundry damaged.

N. C., Greensboro.—John W. King's triple flat on North Davis St.; loss \$3000.

N. C., Washington.—Building owned by George O. and Charles Morton; loss \$30,000.

N. C., Wilmington.—Navassa Guano Co.'s plant damaged; loss \$10,000.

N. C., Wilkesboro.—Mrs. J. A. Forrester's residence; loss \$4000.

Okla., Tulsa.—Red Ball Transfer & Storage Co.'s stable and warehouse; loss about \$50,000.

S. C., Florence.—Atlantic Coast Line Railway Co.'s oil and storage room; loss \$10,000; E. B. Pleasants, chief engineer, Wilmington, N. C.

S. C., Chester.—Residence owned by I. N. Norris, Yorkville, S. C.

S. C., Sumter.—Kennedy Bros.' planing and shingle mill.

S. C., Sumter.—C. M. Betts & Co.'s lumber plant damaged; loss about \$5000.

Tex., Houston.—H. N. Jageman's residence.

Tenn., Memphis.—Rev. John T. Myers' residence; loss \$5000.

Tex., Bay City.—E. De Cour's residence.

Tex., Hockley.—William H. Bawer's sawmill; estimated loss \$10,000.

Tex., Longview.—R. G. Brown Lumber Co.'s drykiln.

Tex., Mabank.—Osborne-Eubank Hardware & Lumber Co.'s warehouse; loss \$8000.

Tex., San Antonio.—W. J. Pearson's residence; loss \$3000.

Tex., Sherman.—Charles S. Underwood's residence at 703 N. Porter St.; loss \$3500.

Tex., Sulphur Springs.—W. C. Hurley's residence on Van Sickle St.; loss \$3000.

Tex., San Antonio.—John A. Gerhart's residence owned by Mr. Barker; loss \$3000.

Tex., Sweetwater.—McSweeney Packing Co.'s main building and office structure; estimated loss \$60,000.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

D. C., Washington.—P. J. Nee has plans for apartment and store building. (See "Stores.")

Mo., Kansas City.—J. D. Parker will erect apartment-house; brick; cost \$5000.

Mo., Kansas City.—Louis Robidoux will erect two apartment-houses; brick; cost \$25,000.

Mo., Kansas City.—H. E. Brauna will erect apartment-house; brick; cost \$5000.

Mo., Kansas City.—Ludwig Renner will erect store and apartment building; brick veneer; cost \$3000.

Mo., Kansas City.—Mrs. C. R. Timmins will erect apartment-house; stone veneer; cost \$6000.

Mo., Kansas City.—J. E. Loewer will erect apartment-house; brick; cost \$12,500.

Mo., Kansas City.—Owners' Realty Corporation will erect apartment-house; brick; cost \$22,000.

Mo., St. Louis.—Hildenbrandt & Noble Realty Co. has plans by Preston J. Bradshaw, St. Louis, for three apartment buildings at Lafayette and Pennsylvania Aves.; six five-room apartments and six six-room apartments; steel frame; colonial style; each apartment equipped with shower bath in addition to regular bath; garage with capacity for six automobiles.

Mo., St. Louis.—Stanford Investment Co. will erect tenement-house; three stories; cost \$18,000.

Mo., St. Louis.—Thurles Realty Co. will erect store and tenement-house; three stories; cost \$34,286.

Tex., Dallas.—Mrs. D. L. Countryman has plans by Brickey, Bryan & Brickey, 13th floor, Praetorian Bldg., Dallas, for proposed apartment-house; three stories; 18 apartments of four to seven rooms, each to have private entrances, call bells, telephones, etc.

Tex., Dallas.—Mrs. C. H. Boazman will erect apartment-house; 12 rooms; frame; cost \$6000.

Tex., Dallas.—Young L. Moore will erect apartment-house; frame construction; cost \$8000.

Va., Danville.—Mrs. W. E. Clark will erect three-story brick and three-story frame tenement-houses; cost \$16,000 and \$2600, respectively.

Va., Richmond.—W. F. Drinkard, Jr., will erect tenement-house; two stories; double; brick; cost \$10,000.

Va., Richmond.—Elizabeth L. Lee will erect two-story brick tenement-house (two dwellings); cost \$7500.

Va., Richmond.—S. S. Stillburg will erect two-story brick tenement-house (two dwellings); cost \$7500.

ASSOCIATION AND FRATERNAL

Fla., Zephyrhills.—Ancient Free and Accepted Masons will erect Masonic temple; 40x60 feet; three stories.

Fla., St. Augustine.—Fraternal Building Co. Incorporated with \$15,000 capital stock; William Fishwick, president; B. E. Dyson, vice-president; E. Y. Harrison, secretary; Samuel E. Smith, treasurer; will erect fraternal hall.

Ky., Louisville.—Railroad Department, Young Men's Christian Association has plans by McDonald & Dodd, Louisville, for proposed building; will contain 43 bedrooms, swimming pool, shower baths, lockers, pool and billiard-rooms, etc.; cost about \$50,000.

Miss., Gulfport.—Fraternal Building Association Incorporated with \$25,000 capital stock by H. D. De Saussure, C. M. Bridges, William Estopinal and others; will erect building to be occupied by various fraternal orders.

Tex., Winfield.—J. S. Hogue's store, loss \$3200; J. M. Jagers & Sons' store, loss \$3600.

Va., Concord.—Jack Cardwell's sawmill.

Va., Cumberland.—Cumberland Planing Mills; David Stuart, manager.

Va., Fincastle.—Hunter Breckinridge's residence, "Catawba," near Fincastle; loss \$25,000.

Va., Norton.—M. M. Flanary's store.

Va., Willis Wharf.—William A. Miles' residence; loss \$3000.

W. Va., Meadowbrook.—Horton Bros.' store; loss \$7000.

Okla., Bartlesville.—Bartlesville Lodge, No. 1090, Benevolent Protective Order of Elks, will erect lodge building; Carthage cut stone with black brick; fluted terra-cotta columns; three stories; basement 11 feet above street line and 38x56 feet; steam heat; lobby to have tile floor over reinforced concrete, with marble wainscoting and base.

Okla., Oklahoma City.—Gross Construction Co. will alter building at 116 W. 2d St. for Loyal Order of Moose and erect three additional stories; cost \$20,000.

Va., Unionville.—Washington Hall Incorporated with \$2000 capital stock; R. M. Waugh, president; R. D. Stewart, vice-president; R. B. Harris, secretary-treasurer; will erect buildings to be occupied by various fraternal societies.

Va., Newport News.—Hampton Aerie, No. 674, Fraternal Order of Eagles, plans to erect lodge building.

BANK AND OFFICE

Ark., Marianna.—Bank of Marianna will erect bank building; three stories; pressed brick.

Ark., Newport.—John W. and Joseph M. Stayton is having plans prepared by George R. Mann, Gazette Bldg., Little Rock, Ark., for office building; 20x12 feet; fireproof construction; hot-water heat; further information may be had from architect. (Recently noted.)

Fla., Jacksonville.—Georgia Supply Co., Savannah, Ga., will erect warehouse and office building. (See "Warehouses.")

Fla., West Palm Beach.—Pioneer Bank will erect bank, store and office building; 100x100 feet; construction probably of Miami rock.

Ga., Augusta.—S. Lesser will erect warehouse and office building. (See "Warehouses.")

Ga., Buchanan.—Farmers and Citizens' Bank purchased Davenport & Adams Bldg. and will remodel for bank.

Ga., Macon.—Atlantic National Fire Insurance Co. is reported to erect office building; marble or fancy brick front; burglar and fire proof vaults on all floors.

Ga., St. Marys.—Bank of Camden County will erect bank building; 25x50 feet; two stories; brick; acetylene-gas lighting; cost \$3000; plans by J. H. Banks; bids opened August 4. Address J. R. Bachloff, St. Marys. (See "Machinery Wanted.")

Ga., Sylvester.—Bank is being organized with W. Tison president; will erect bank building.

La., New Orleans.—Woodward, Wight & Co., Ltd., will erect office, warehouse and store building. (See "Warehouses.")

Md., Baltimore.—Western National Bank, Eutaw St. near Fayette St., is having plans prepared by Haskell & Barnes, 301 N. Charles St., Baltimore, for improvements to bank building, including erection of addition in rear, new front, fixtures, interior decorations, etc.; cost about \$100,000.

Okla., Oklahoma City.—Frederick A. Gross will erect three additional stories to office building at 110-13 W. 2d St.; cost \$20,000.

S. C., Eutawville.—Bank of Eutawville will erect 25x40x15-foot brick bank building.

N. C., High Point.—North Carolina Public Service Co. will erect office building on South Main St.; three stories; brick and granite.

S. C., Bishopville.—Merchants and Planters' Bank contemplates erection of bank building. (See "Machinery Wanted.")

S. C., Saluda.—Eugene W. Able will receive bids to erect bank and office building; 60x50 feet; three stories; plans by G. Lloyd Preacher, Augusta, Ga.; material furnished by owner.

Tenn., Nashville.—Goodlett Realty Co. will

erect store and office building at 147 7th Ave.; three stories; brick; cost \$20,000.

Tenn., Nashville.—State Trust Co. has plans by Marr & Holman, Nashville, for bank and office building; three stories; Michigan red sandstone and red marble to match; stone columns in front; Roman-Doric classic design; banking-rooms to have marble wainscoting and tile floors; wrought-iron and marble fixtures; steam heat.

Tex., Dallas.—John N. Simpson is having plans prepared by H. A. Overbeck, Dallas, for proposed office building at Commerce and Market Sts.; seven or nine stories; 75x95 feet; reinforced concrete; fireproof; power plant and refrigerating plant in basement; cost about \$175,000; lower floor for stores; upper floors for offices.

Tex., Kingsville.—St. Louis, Brownsville & Mexico Railroad, E. C. Burgess, chief engineer, M. W. and Construction, will erect office building and hotel; cost \$60,000.

W. Va., Moundsville.—Mound City Bank will soon award contract to erect proposed bank building.

CHURCHES

Ala., Bessemer.—Rev. Frazier M. Matthews of East Lake, Station Birmingham, Ala., is interested in erection of Baptist church at pipe shops.

Ala., Cordova.—Long Memorial Church will erect edifice; cost \$12,000. Address The Pastor, Long Memorial Church.

Ark., Jonesboro.—First Baptist Church will erect edifice; cost \$50,000.

Ark., Marianna.—Methodist congregation will erect edifice; cost \$30,000. Address The Pastor, Methodist Church.

Fla., Key West.—Sparks Chapel will erect church; probably 74x73 feet; 75 foot tower; reinforced concrete; auditorium 53x53 feet; to seat 400 people; cost \$12,000. Address The Pastor of Sparks Chapel.

Ga., Atlanta.—Druid Hills Methodist Episcopal Church, Rev. R. G. Mackay, pastor, will erect edifice; cost about \$25,000.

Ga., Uvalde.—Revs. T. E. Toole of Macon, Ga., and J. J. Joiner, Jr., of Dublin, Ga., are interested in erection of proposed Baptist church.

Ga., Maxey.—Methodist congregation plans to erect edifice. Address The Pastor, Methodist Church.

Ky., Louisville.—Church of the Holy Name, Rev. J. T. O'Connor, pastor, will erect edifice; 67x145 feet; tower 105 feet high; brick and stone construction; cost \$40,000.

Md., Frederick.—Evangelical Lutheran Church, Rev. Ulysses S. G. Rupp, pastor, has plans by Hamme & Leber, York, Pa., for addition and improvements to Sunday-school building; one story, 28 feet wide; cost \$4000 to \$5000.

Mo., St. Louis.—Mt. Calvary Episcopal Church has plans by Hellmuth & Hellmuth, St. Louis, for edifice; brick and stone; Tudor Gothic style; seating capacity 500; cost \$25,000. (Recently noted.)

Mo., St. Louis.—Union Methodist Church, Rev. George Wood Anderson, pastor, will erect edifice to replace burned structure; bowl-shaped auditorium and Sunday-school room; seating capacity, 800 to 900; cost about \$25,000; plans by W. A. Cann, St. Louis. (Previously noted.)

Mo., St. Louis.—Trinity Presbyterian Church, Rev. Charles R. Nisbet, pastor, plans to erect edifice.

N. C., Concord.—St. James' Evangelical Lutheran Church will receive bids about August 15 to erect addition and make improvements to edifice; 50x36 feet; ordinary construction; brick with cement stucco; hot-air heat; electric lighting; cost \$9000; will install new pews, carpet, chancel furniture, including pulpit, lectern, altar, etc.; further information may be obtained from C. A. Cook, South Spring St., Concord. (Recently noted.)

N. C., Raleigh.—St. Ambrose Episcopal Church, Rev. J. E. King, pastor, plans to erect edifice.

Okla., Coalgate.—Baptist congregation will erect edifice; cost \$7000 to \$10,000. Address The Pastor, Baptist Church.

S. C., Marion.—Building committee of First M. E. Church, William Stackhouse, chairman, will receive bids until noon August 15 to erect edifice; certified check for \$500; plans and specifications with committee or at office of Wheeler & Stern, architects, Charlotte, N. C.

Tex., Port Lavaca.—Baptist congregation, W. A. Myers, pastor, will open bids about October 1 to erect edifice; 62 feet by 74 feet 3 inches; brick veneer; plans by J. M. Hyde,

3d floor, Times Bldg., Shreveport, La.; pastor may be addressed. (Recently noted.)

Tex., Teague.—St. Mary's Catholic Church will erect edifice; frame; 30x64 feet; Rev. George Apel, rector of St. Joseph's Church of Marlin, Tex., is interested.

W. Va., Elm Grove.—First Methodist Episcopal Church will award contract at \$9920 to A. B. Imhoff to erect edifice; brick veneer; cut stone foundation and entrance; main auditorium 45x15 feet; Sunday-school room 23x47 feet; kitchen, shower baths, etc., in basement; art-glass memorial windows; plans by C. D. McCarthy, Wheeling, W. Va. (Previously noted.)

W. Va., Williamson.—Methodist congregation, Rev. P. D. Fisher, pastor, is having plans prepared by W. J. Alexander, New Martinsville, W. Va., for proposed edifice; cost about \$15,000.

CITY AND COUNTY

Ky., Louisville.—City Hall.—City will expend \$10,000 to \$15,000 for improvements to city hall annex for fire-alarm headquarters, including construction of floor, plastering, painting, plumbing and marble work; will receive bids until 2 P. M. August 8.

La., Jonesboro.—Jail.—Jackson Parish Police Jury will erect jail to cost \$10,000. (Recently noted to vote August 22 on tax to erect jail and courthouse.)

Mo., Kansas City.—Isolation Hospital.—City changed proposed location of isolation hospital and will receive new bids to erect buildings, to cost \$4500 more than if erected on original site; plans by F. C. Gunn, Kansas City. (Contract for these structures recently noted awarded to Flanagan Bros., Kansas City, at about \$25,000.)

N. C., Salisbury.—City Hall and Market.—City contemplates erection of city hall and market; M. C. Quinn, T. J. Rabe, Aldermen.

Tenn., Knoxville.—Jail.—Knox county is having plans prepared by L. C. Waters, Knoxville, for improvements to jail and courthouse. (See "Courthouses.")

Tenn., Chattanooga.—Police Station.—City contemplates erection of second story to police station for police court; T. C. Betterton, Commissioner of Department of Police and Fire.

Tenn., Humboldt.—Jail, etc.—City voted \$15,000 bond issue to erect jail, courthouse and offices. Address The Mayor.

Tenn., Knoxville.—Jail, etc.—Knox County Court is having plans prepared for repairing jail and courthouse. (See "Courthouses.")

Tex., Fort Worth.—Hospital.—City and Tarrant County Commissioners are reported as contemplating erection of joint city and county hospital to cost \$40,000. Address The Mayor.

Tex., Fort Worth.—Storehouse.—City will erect storehouse for mechanical apparatus, tools, etc.; brick; 120x60 feet. W. D. Davis, Mayor.

Tex., Dallas.—Library.—City will erect \$25,000 branch Carnegie Library in Oak Cliff; Maurice E. Locke, president of Public Library Association.

Va., Norfolk.—City Home.—Bids received by Board of Control until July 31 to erect three cottages at City Home for tubercular patients.

W. Va., Wheeling.—Jail, etc.—Ohio County Commissioners, Geo. W. Oldham, clerk, receive bids until 10 A. M. August 3 for improvements as follows: (1) Plumbing in courthouse, jail and jailer's residence; (2) heating for same buildings; (3) electric wiring for courthouse; (4) decorating courthouse; (5) office fixtures; plans and specifications at office of George S. Mooney, architect, 402-3 Schumacher Bldg., Wheeling.

COURTHOUSES

La., Jonesboro.—Jackson Parish Police Jury will erect courthouse; two stories; semi-fireproof construction; steam heat; cost \$50,000; plans not made; W. L. Bagwell, clerk. (Recently noted to vote August 22 on tax to erect courthouse.)

Tenn., Humboldt.—City voted \$15,000 bond issue to erect courthouse, city jail and offices. Address The Mayor.

Tenn., Jonesboro.—Washington County Court will probably order erection of courthouse in October; Legislature authorized \$50,000 bond issue; W. C. Leab, clerk. (Recently noted.)

Tenn., Knoxville.—Knox County Court is having plans prepared by L. C. Waters, Knoxville, to repair courthouse and jail; cost \$6500; bids received about August 13; address architect. (Recently noted.)

Tenn., Knoxville.—Knox county is having plans prepared by L. C. Waters, Knoxville,

for plumbing, heating and other repairs to courthouse and jail. (Recently noted.)

Tex., Alice.—Nueces County Commissioners approved site for erection of proposed courthouse.

W. Va., Wheeling.—Ohio County Commissioners receive bids until August 3 for improvements to courthouse, etc. (See "City and County.")

DWELLINGS

Ala., Birmingham.—C. W. Streit will erect four residences; one story; frame; cost \$4500.

Ala., Birmingham.—Hinds R. Eskell will erect residence; two stories; frame; cost \$5200.

Ala., Birmingham.—S. G. Stubbins will erect residence; one story; frame; cost \$3000.

Ala., Birmingham.—Hines Realty Co. will erect residence; two stories; frame; cost \$5200.

Ala., Birmingham.—H. M. Summerville will erect residence; two stories; brick veneer; cost \$3000.

Ark., Little Rock.—William Sutton will open bids August 15 to erect dwelling; 40x60 feet; first story brick veneer; second story stucco; vacuum heat; cost \$10,000; plans by W. D. Holtzman, Jr., 825 Southern Trust Bldg., Little Rock; architect may be addressed. (Recently noted.)

D. C., Washington.—Joseph W. Bailey, 2620 Connecticut Ave. N. W., has plans by George Oakley Totten, Jr., 808 17th St. N. W., Washington, for residence on 16th St.; three stories; white stone; nine rooms, besides kitchen, bathrooms and servants' quarters; cost \$35,000.

D. C., Washington.—J. S. Gruver, Union Trust Bldg., will erect four dwellings at 405-11 8th St. N. W.; two stories; brick; cost about \$12,000; plans and construction by owner.

D. C., Washington.—Edwin D. Marlow, treasurer of Potomac Electric Power Co., 213 14th St. N. W., will erect residence in Chevy Chase Circle.

Fla., Jacksonville.—A. G. Thompson will erect residence; two stories; frame.

Fla., Madison.—J. Charles Valadie, architect, is preparing plans for two-story dwelling; electric lighting; hot-water heat; cost \$6000. (See "Machinery Wanted.")

Ga., Atlanta.—M. L. Brittain will erect residence; cost \$4500.

Ga., Atlanta.—George Mau will erect four dwellings; cost \$9000.

Ga., Atlanta.—W. A. Candler will erect residence; cost \$3500.

Ga., Atlanta.—M. P. Trotti will erect residence; cost \$3500.

Ga., Brunswick.—First Baptist Church will erect parsonage. Address The Pastor, First Baptist Church.

Ga., Macon.—J. E. Gullford has plans by Curran R. Ellis, Macon, for residence; cost \$4500.

Ky., Louisville.—Charles L. Nelson will erect residence; three stories; cost \$25,000; plans by McDonald & Dodd, Louisville.

Ky., Louisville.—T. W. Powell, Jr., will erect residence; two stories; frame and stucco; cost \$4000.

Ky., Winchester.—Thomas Brock will erect residence.

La., New Orleans.—W. S. Campbell will erect residence; two stories; frame and stucco; cost \$5000.

Md., Baltimore.—Charles Herbold & Son, 121 Stockholm St., will erect 16 dwellings at North and Slingluff Aves.; two stories; brick; 14x52 feet; electric lights; hot-water heat; cost \$32,000.

Md., Baltimore.—Frank Novak, 2808 Jefferson St., contemplates erection of 12 or 14 dwellings on Bayard St.; is reported to erect number of dwellings on Carey, Herkimer, Bayard Sts. and Columbia Ave.; buff brick; stone or marble trimmings.

Md., Baltimore.—Samuel Eisenberg, 1825 Eutaw Pl., has plans by Herbert C. Alken, 223 St. Paul St., Baltimore, for residence in West Arlington; two and a half stories; frame; slate roof; Gladfelter & Chambers, Parkdale and Maryland Aves., and A. F. West, 15 E. Fayette St., both of Baltimore, are estimating.

Md., Baltimore.—Andrew Knell, Jr., 215 St. Paul St., prepared plans for cottage on Bate-man Ave.; two and a half stories; frame; 20x27 feet; cost about \$3200.

Md., Baltimore.—C. A. Cuper, secretary-treasurer of J. W. F. Dorman Company, 526 N. Calvert St., has plans by H. C. Alken, 223 St. Paul St., Baltimore, for residence on

Beaumont Ave.; two and a half stories; frame; Milton C. Davis, 15 E. Fayette St., Baltimore, is estimating.

Md., Baltimore.—Frederick Eisenbrandt, 2305 Avalon Ave., is having plans prepared by Jacob F. Gerwig, 210 E. Lexington St., Baltimore, for dwelling on Auchentoroly Ter.; three stories; brick and stone.

Md., Baltimore.—Oliver L. Tunis, 1 Prospect Circle, has plans by Henry J. Tinley, 314 N. Charles St., Baltimore, Md., for three dwellings on Clifton Ave. near Queen Anne Rd.; two and a half stories; cost about \$4500 each; 45x30 feet; frame; steam heat; gas and electric lighting; construction by owner. (Previously noted.)

Md., Baltimore.—Starr Methodist Protestant Church is having plans prepared by Owens & Sisco, 1605 Continental Bldg., Baltimore, for proposed parsonage at Garrison and Alto Aves.; two and a half stories; slate roof; concrete foundation. (Previously noted.)

Md., Baltimore.—William F. Southcomb, 109 E. Baltimore St., is having plans revised by Glidden & Friz, Glenn Bldg., Baltimore, for residence; two and a half stories; brick and stucco; tile roof. (Previously noted.)

Md., Baltimore.—E. J. Gallagher, Eastern and Lakewood Aves., is having plans prepared by Jacob F. Gerwig, 210 E. Lexington St., Baltimore, for 10 dwellings on 27th St.; two stories; brick; white marble trimmings; cost about \$20,000.

Mo., Kansas City.—G. G. Elser will erect dwelling; stone veneer; cost \$3200.

Mo., Kansas City.—A. Freeman will erect two dwellings; one stone veneer and one frame; cost \$6500.

Md., Roland Park.—Millard F. Burgess, 2233 Eutaw Pl., Baltimore, Md., will receive bids until August 8 to erect residence; two and a half stories; plans by Glidden & Friz, Glenn Bldg., Baltimore, Md.

Md., Roland Park.—Roland Park Co., 408 Roland Ave., is having plans prepared by E. L. Palmer, Jr., 408 Roland Ave., Roland Park, for group of dwellings on University Parkway; three stories; concrete and stucco; slate roof; steam heat; electric lights; cost about \$100,000.

Md., Chevy Chase.—L. W. Page has plans by George Oakley Totten, Jr., 808 17th St. N. W., Washington, D. C., for residence; two and a half stories; pressed brick and stone; tile roof; contractors estimating are G. Walter Tovell, Eutaw Pl. and Dolphin Sts., Baltimore, Md.; Page Construction Co., Hibbs Bldg., Washington, D. C., and James J. Jones.

Mo., Kansas City.—F. P. Kimber will erect three dwellings; frame; cost \$5400.

Mo., Kansas City.—N. W. Dible will erect 14 dwellings; brick veneer; cost \$31,000.

Mo., Kansas City.—E. P. Sappington will erect dwellings; stone veneer; cost \$4000.

Mo., Kansas City.—Samuel Atkins will erect residence; stone; cost \$12,000.

Mo., Kansas City.—Tom A. Velle of John Deere Plow Co. will erect residence.

Mo., Kansas City.—Gary Baltis will erect six dwellings; frame; cost \$11,000.

Mo., Kansas City.—W. P. Marley will erect dwelling; stone veneer; cost \$4500.

Mo., Kansas City.—A. J. Henderson will erect dwelling; frame; cost \$12,000.

Mo., Kansas City.—H. Freymann will erect dwelling; frame; cost \$3000.

Mo., Kansas City.—Home Land & Building Co. will erect one brick and three frame dwellings; cost \$7000; plans and construction by company.

Mo., Kansas City.—D. Joseph will erect residence; stone veneer; cost \$3000.

Mo., St. Louis.—Rudolph L. Weinert will erect residence.

N. C., Asheville.—William E. Tyack will erect boarding-house; about 20 rooms; cost about \$10,000.

N. C., Raleigh.—F. C. Toepelman, superintendent of Henderson Telephone Co., will erect residence.

N. C., Scotland Neck.—Baptist congregation will erect parsonage; cost \$4000 to \$5000. Address The Pastor, Baptist Church.

Okl., Oklahoma City.—Opportunity Investment Co. will erect 15 dwellings in northern part of city in addition to several under construction.

S. C., Charleston.—E. A. Simons will erect two residences; frame; cost \$7800.

S. C., North Augusta.—Baptist congregation will erect \$3000 parsonage. Address The Pastor, Baptist Church.

Tenn., Nashville.—Mrs. Lon Mayberry will erect residence; brick; cost \$5000.

Tenn., Knoxville.—R. C. S. Hutchinson has

plans by L. C. Waters, Knoxville, for residence; bungalow style; cost \$3000.

Tex., Corpus Christi.—H. D. McDonald of Paris, Tex., will erect residence.

Tex., Dallas.—J. H. Power will erect residence; cost \$8500.

Tex., Dallas.—P. B. Arrington will erect brick-veneer residence; cost \$5000.

Tex., Decatur.—S. M. Gose has plans by Associated Architects, 513 Slaughter Bldg., Dallas, Tex., for dwelling; ordinary construction; cost \$2500.

Tex., Houston.—Gabriel I. Lee will erect residence; cost \$9000.

Tex., Mason.—Charles Bierschwale has plans by Associated Architect, 513 Slaughter Bldg., Dallas, Tex., for 10-room dwelling; brown sandstone; colonial style; ordinary construction; hardwood floors; five mantels; cost \$6000.

Tex., Mason.—Dr. McCollum has plans by Associated Architects, 513 Slaughter Bldg., Dallas, Tex., for dwelling; eight rooms; ordinary frame construction; cost \$3500.

Tex., Mexia.—J. D. Murphy will erect cottage.

Tex., San Antonio.—H. A. Ramsdeter will erect dwelling; two stories; cost \$3200.

Tex., Texas City.—Sam Fridner will erect three bungalows.

Tex., Texas City.—R. M. Hughes will erect residence.

Va., Crimora.—W. F. Walter will erect residence.

Va., Danville.—Robert Brydon College will erect residence; two stories; frame; cost \$4200.

Va., Danville.—H. L. Boatwright will expend \$4000 for improvements to residence.

Va., Richmond.—George Abraham will erect store and dwelling. (See "Stores.")

Va., Roanoke.—W. P. Campbell will erect residence; two stories; frame.

Va., Richmond.—Edward J. Cook will erect store and dwelling. (See "Stores.")

Va., Richmond.—D. C. O'Flaherty will erect residence; two stories and attic; brick; cost \$15,000.

Va., Richmond.—M. Rosenbloom will erect residence; four stories and attic; brick; cost \$22,000.

GOVERNMENT AND STATE

Ala., Gadsden.—Postoffice.—Treasury Department, Office of Supervising Architect, Washington, D. C. Bids received in this office until 3 P. M. September 5 and then opened for enlargement and completion (including plumbing, gaspiping, heating apparatus and electric conduits and wiring) of United States Postoffice at Gadsden in accordance with drawings and specifications, copies of which may be obtained from custodian of building at Gadsden or at this office at discretion of Supervising Architect, James Knox Taylor.

Ala., Wetumpka.—Hospital.—State Convict Department, Montgomery, Ala., will erect seven buildings for State convict hospital.

Md., Sykesville.—Asylum.—Austin L. Crothers, Governor, Union Trust Bldg., Baltimore, Md., opened bids to erect hospital and cottage at Springfield State Asylum; Jacob Fowble, Timonium, Md., is lowest bidder to erect hospital, and E. J. Phipps & Co., Corcoran Bldg., Washington, D. C., lowest bidder to erect cottage; plans by Parker, Thomas & Rice, Union Trust Bldg., Baltimore, Md. (Recently noted.)

Okl., Fort Hill.—Hospital.—Quartermaster Department, David L. Stone, constructing quartermaster, has plans for proposed hospital building; will contain bacteriological laboratory, surgical and medical equipment, etc.; cost about \$30,000.

Tex., Huntsville.—Laundry.—J. A. Palmer, secretary of State Prison Commission, will receive bids until August 5 to erect laundry building at prison; plans and specifications at office of Sanguinette & Staats and A. E. Barnes, Houston and Fort Worth, Tex.; Ben E. Cabell, chairman of Prison Commission, Huntsville.

Tex., Cleburne.—Postoffice.—Treasury Department, James Knox Taylor, supervising architect, Washington, D. C., opened bids to erect postoffice building; John Bardon, Fort Worth, Tex., is lowest bidder at \$74,000 and \$77,500, respectively, for limestone and sandstone construction. (Recently noted.)

Va., Fort Harrison.—Kitchen, etc.—H. L. Pettus, Major and Quartermaster, U. S. Army, Washington, D. C., will receive bids in triplicate until 11 A. M. August 30 to erect brick addition to lodge and frame outbuilding at Fort Harrison; plans and specifications from Mr. Pettus, at Washington, or

from Superintendent of National Cemetery at Fort Harrison.

W. Va., Terra Alta.—Sanitarium.—State Board of Health and State Board of Control, Charleston, W. Va., will erect sanitarium; \$40,000 appropriation.

HOTELS

Ala., Cordova.—Whit Long will, it is reported, erect hotel; two or three stories; brick.

Ark., Little Rock.—R. Eisenberg has plans by Mr. Dill, Little Rock, for proposed hotel; three stories; brick.

Fla., Belleair.—Morton F. Plant has plans by F. J. Kennard, Tampa, Fla., for improvements to Belleview Hotel; will double size of dining-room, make addition to kitchen, erect boiler-house, add 60 additional rooms to servants' quarters, extend main lobby, erect brick smokestack 108 feet high; entire lower floor of hotel of brick; cost about \$100,000.

Fla., Jacksonville.—Joseph R. Dunn, Tracy L. Acosta and A. G. Hartridge will expend \$15,000 for improvements to Grand View Hotel (previously purchased) and will operate under name of Virginia Hotel; will install electric lights, steam heat, running water in each room, elevators, etc.

Fla., Orlando.—San Juan Hotel Co. will make improvements to hotel, including installation of steam-heating plant, elevator, additional bathrooms, etc.

Mo., Kansas City.—D. H. Burnham & Co., Railway Exchange, Chicago, Ill., advises Manufacturers Record that they are not preparing plans for hotel (recently reported) to be erected by A. C. Bilcke of Los Angeles, Cal.

Tex., Cuero.—Mr. Rathman, proprietor, will not at present erect addition to Muti Hotel as recently reported.

Tex., Houston.—Lewis Anderson is having plans prepared by Sanguinette & Staats, Houston, for improvements to Brazos Hotel, including improvements to court and terraces, converting same into open-air cafes, etc.; cost about \$100,000.

Tex., Kingsville.—St. Louis, Brownsville & Mexico Railroad, E. C. Burgess, chief engineer, M. W. and Construction, will erect hotel and office building; cost \$60,000.

Tex., Rockport.—Gulf Coast Immigration Co., Dr. Ellison, representative, will erect proposed hotel at Rocky Point; brick; fireproof; cost \$50,000.

Va., Lynchburg.—Lynchburg Hotel Corporation incorporated with \$300,000 capital stock; John W. Craddock, president; James T. Noell, secretary-treasurer; O. B. Barker, vice-president; will erect hotel to cost about \$200,000.

MISCELLANEOUS

Ala., Selma.—Fair Buildings.—Central Alabama Fair Association, Morgan Richards, secretary, will erect no new buildings this season; repairs only to be made. (Recently noted.)

Ark., Hot Springs.—Bathhouse.—S. W. Fordyce is having plans prepared by George R. Mann, Little Rock, Ark., for bathhouse to cost \$250,000; details not determined.

Ark., Little Rock.—Clubhouse.—Chamber of Commerce will expend \$7500 for improvements to clubrooms in Dodge & Osborne Bldg.

Fla., Orlando.—Sanitarium.—Dr. C. D. Christ is promoting, it is reported, erection of sanitarium to cost about \$25,000.

Ga., Macon.—Convention Hall, etc.—Dr. W. G. Lee is reported to erect building for stores, Chamber of Commerce and convention hall. (See "Stores.")

La., New Orleans.—Home.—Mrs. E. Rosenberg is promoting erection of proposed Ben Hilborn Home.

La., Shreveport.—Livestock Barns.—State Fair Association receives bids until August 3 to erect proposed livestock barns at State Fair grounds; cement; concrete and steel; fireproof; cost not to exceed \$10,000.

Md., Baltimore.—Garage.—Dr. J. Wesley Cole, 2200 Garrison Ave., is having plans prepared by Henry J. Tinley, 314 N. Charles St., Baltimore, for garage at 2202 Garrison Ave.; ornamental frame; slate roof; wood cornice.

Md., Baltimore.—Garage.—Charles M. Stieff, Aiken St. and Lafayette Ave., will erect garage in rear of plant; probably one story; brick; fireproof construction.

S. C., Greenville.—Rescue Home.—Directors of Rescue Home plan to erect home to replace present structure; J. A. McCullough, chairman of committee.

Tenn., Knoxville.—Hall.—Agricultural Experiment Station, H. A. Morgan, dean, will erect proposed Temple Hall on experiment

station farm; will consist of one open-air auditorium with roadway passing through it and several smaller compartments for sectional meetings and experimental laboratories; auditorium to seat 6000; cost \$3000 to \$4000.

Tex., Dallas.—Sanitarium.—St. Paul Sanitarium will erect addition; cost \$5400.

Tex., Yoakum.—Hospital.—San Antonio & Aransas Pass Railroad, J. S. Peter, vice-president and general manager, San Antonio, Tex., is promoting erection of proposed railroad hospital; W. L. Orth, chairman of committee.

Va., Norfolk.—Clubhouse.—Borough Club, Carey P. Weston, president, will remodel building for clubhouse.

Va., Richmond.—Orphanage.—Drs. James K. Hall and Paul V. Anderson will establish sanitarium at Westbrook.

Va., Richmond.—Orphanage.—Male Orphan Asylum, John L. Williams, president, will erect chapel and assembly-room building.

W. Va., Warwood.—Arcade.—Warwood Amusement Co. organized with \$5000 capital stock by H. L. Stroebel, Andrew Hart, Geo. S. Eberts and others; will conduct amusement arcade; leased building at Stop 10 and will remodel, install bowling alleys in basement, etc.

RAILWAY STATIONS

Ark.-Tex., Texarkana.—Missouri Pacific Railway Co., E. F. Mitchell, chief engineer, St. Louis, Mo., contemplates erection of freighthouse.

Ga., Edison.—Georgia, Florida & Alabama Railway, C. G. Barney, chief engineer, Bainbridge, Ga., will erect passenger depot and remodel present structure for freighthouse.

Ga., Newnan.—Atlanta & West Point Railroad, C. A. Wickersham, president, Atlanta, Ga., and Central of Georgia Railway, C. K. Lawrence, chief engineer, Savannah, Ga., will soon begin erection of union depot; 160x105 feet; brick construction; will contain offices of two roads and offices of Southern Express Co., latter 25x35 feet, with solid concrete floor; baggage-room 18x24 feet, with concrete floor; loggias 22x30 and 17x22 feet; retiring and smoking rooms 12x16 feet each; ticket office 9x13 feet; main waiting-room 24x30 feet; colored waiting-room 24x28 feet; gravel platform 15 feet wide around station next to track. (Previously noted.)

Ga., Statesboro.—Savannah & Statesboro Railway, J. R. Anderson, president, Savannah, will erect freight depot; brick construction.

Ga., Vidalia.—Georgia & Florida Railway, W. A. Swallow, chief engineer, Augusta, Ga., will, it is reported, erect station; stone and brick; cost \$12,000; plans by G. Lloyd Preacher, Augusta, Ga.

Mo., St. Joseph.—Chicago, Burlington & Quincy Railroad Co., T. E. Calvert, chief engineer, Chicago, Ill., is receiving bids to erect proposed freighthouse; 40x60 feet; 11-foot platform on track side; flat gravel roof with 12-foot overhanging eaves on both sides.

Okla., Stillwater.—Gulf, Colorado & Santa Fe Railway, F. Merritt, chief engineer, Galveston, Tex., will soon begin erection of proposed station.

Tenn., Alamo.—Birmingham & Northwestern Railway Co., M. Harvey, chief engineer, Jackson, Tenn., will let contract about August 1 to erect depot.

W. Va., Grafton.—Baltimore & Ohio Railroad, F. L. Stuart, chief engineer, Baltimore, Md., will erect freight depot at foot of Durbin St.

SCHOOLS

Ala., Florence.—Trustees of State Normal Schools will erect additional buildings at State Normal School, of which James K. Powers is president; cost \$35,000.

Ala., New Decatur.—City voted \$20,000 bond issue for school improvements. Address The Mayor. (Recently noted.)

Ark., Summerdale.—C. O. Francher, P. H. Slebert, C. E. Stufflebeam and others are promoting erection of proposed school.

Ark., Texarkana.—E. A. Frost, president of State National Bank, W. L. Wood, Jr., president of Board of Trade, and others are interested in establishment of industrial school for colored people, to be in charge of Rufus S. Stout.

Fla., Pensacola.—Board of Public Instruction will erect two additional rooms to school building No. 40; frame; cost \$2500. (Recently noted.)

Ga., Atlanta.—Board of Education contemplates erection of negro school on University Ave.; cost about \$15,000.

Ga., Cairo.—Trustees of Cairo High School plan to enlarge school.

Ga., Macon.—City is having plans prepared by Frank R. Happ, Macon, for eight-room school building on Cherokee Heights; cost \$9000.

La., Thibodaux School Board will probably call election to vote on special tax to erect high-school building.

Ky., Louisville.—Board of Education is having plans prepared by Hermann Wischmeyer, Louisville, for rebuilding burned portion of Male High School; will also erect four-room addition at Parkland school after plans by George H. Gray, Louisville, and four-room and gymnasium addition to George Rogers Clark School.

La., Coushatta.—Parish School Board is having plans prepared by E. F. Neld, Shreveport, La., for proposed school; two stories; brick; sold \$25,000 of bonds.

La., New Orleans.—Charles Kennedy, Comptroller, will receive bids from local contractors until August 16 to erect two-story brick school in rear of 14th ward; cost about \$50,000. (Recently noted.)

La., New Orleans.—Tulane University will have plans revised by DeBuis, Churchill & Laboulle, New Orleans, for proposed gymnasium; permanent structure; brick; two stories; cost \$25,000; John Dymond, Jr., chairman of advisory committee.

La., Plaquemine.—Parish School Board will expend \$42,000 to erect school building; 130x130 feet; fireproof and ordinary construction; steam heat; electric lighting; plans by Stevens & Nelson Company, 1109 Hennen Bldg., New Orleans, La. (Recently noted to receive bids until August 12.)

La., Ponchatoula.—Ponchatoula School District voted tax to erect \$25,000 high-school building. Address District School Trustees.

La., Vidalia.—City will erect 10-room school building; brick; cost \$16,000; architect not selected; D. C. Strickler, superintendent. (Tax recently noted voted to erect school.)

Miss., Hattiesburg.—Baptist Women's College, W. W. Rivers, president, will expend \$30,000 to erect proposed main college building.

Miss., Vardaman, P. O. Timberville.—Mayor and Board of Aldermen will expend \$5000 to erect school building; 42x60 feet; ordinary construction; stoves; lighting not decided; plans by M. M. Alsop, Houston, Miss.; E. I. Hawkins, Mayor. (Recently noted to receive bids until August 10.)

Mo., Kansas City.—Central College of Osteopathy, J. W. Kofess, president, 729 Troost Ave., will erect building; reinforced concrete; three stories; cost \$30,000.

Mo., St. Louis.—David Ranken School of Mechanical Trades will erect \$200,000 addition; three stories; will install mechanical equipment.

Mo., St. Louis.—St. Louis University will erect building for law department; two stories; cost \$20,000.

Okla., Coweta.—Coweta School District voted bond issue to erect school. Address District School Trustees.

Okla., Oklahoma City.—Board of Education will receive bids until August 7 to erect proposed school on Geary Ave.

Okla., Darlington.—Bids addressed to Commissioner of Indian Affairs, Washington, D. C., will be received at Indian office until 2 P. M. August 14 for furnishing materials and labor for erection of brick dormitory at Cheyenne and Arapaho school, Darlington, in accordance with plans, specifications and instructions, which may be examined at Department of Interior Office of Indian Affairs, Washington, D. C.; office of "The American Contractor," Chicago, Ill.; "The El Reno American," El Reno, Okla.; "The State Capital," Guthrie, Okla.; "The Times," Oklahoma City, Okla.; "The Improvement Bulletin," Minneapolis, Minn.; U. S. Indian Warehouses, Chicago, Ill.; St. Louis, Mo., and Omaha, Neb.; the Builders' and Traders' Exchanges at St. Paul, Minn., Minneapolis, Minn., and Omaha, Neb., and at school. For further information apply to William B. Freer, superintendent, Cheyenne, and Arapaho school, Darlington, C. F. Hauke, acting superintendent.

Okla., Roosevelt.—Bids received by Robert M. Briggs, clerk of Board of Education, Consolidated District No. 2, Swanton county, until August 1 to erect two-story frame school; certified check for \$100; plans and specifications at office of Mr. Briggs, Roosevelt, and Wm. McCanse, architect, Hobart, Okla.

Okla., Tulsa.—R. E. Curran, Tulsa County Clerk, will receive bids until August 7 to erect four-room addition to Dunbar School (colored); certified check for \$300; plans and specifications at office of Winkler & McDonald, architects, Tulsa.

S. C., Columbia.—City will vote on \$20,000 bond issue to erect school at Hyatt Park. Address The Mayor.

S. C., Eau Claire, P. O. at Columbia.—School district No. 13 will vote August 15 on \$20,000 bond issue for school improvements; J. B. Duke, B. B. Kirkland and N. W. McDermid, trustees.

S. C., Meggetts.—City will erect proposed school. Address The Mayor.

S. C., Rock Hill.—District School Trustees contemplate election to vote on \$50,000 bond issue for school improvements.

S. C., Sharon.—Board of Education, R. D. Hope, chairman, will open bids about August 4 to erect school building recently noted; 51x56 feet; two stories; four classrooms, library, auditorium, cloakroom, etc.; mill construction; stoves; cost \$6000; plans by J. S. Starr, Rock Hill, S. C. (See "Machinery Wanted.")

Tenn., Bristol.—Washington College, H. H. Haynes, Chancellor, will erect \$10,000 dormitory to replace burned structure.

Tex., Abilene.—Trustees of Simmons College are having plans prepared by Preston & Curtis, Sayless Bldg., Abilene, for new administration building; three stories and substory; first floor for gymnasium and athletic rooms; second floor, president's office, classrooms and auditorium; auditorium to seat 1100; third floor, classrooms and library; cost \$50,000 to \$60,000; Abilene will furnish \$40,000 of this amount; construction will begin October 1; old administration building will also be remodeled after completion of new building; will probably advertise for bids for new building in 30 days. (Chamber of Commerce recently noted interested.)

Tex., Aransas Pass.—Aransas Pass Independent school district voted \$20,000 bond issue for school improvements. Address District School Trustees.

Tex., Brownsville.—City will vote August 23 on special tax for school improvements. Address The Mayor.

Tex., Garland.—Town voted \$15,000 bond issue to erect addition to school. Address School Board.

Tex., Madisonville.—School Board will receive bids until 3 P. M. August 8 to erect school; brick; plans at office of T. W. Byers, secretary, Madisonville, or of Waller & Fields, architects, Fort Worth, Tex.

Tex., San Antonio.—School Board will receive bids until 4 P. M. August 26 to erect school; 12 rooms and basement; reinforced concrete and brick; cast stone trimmings; certified check for \$500; plans and specifications at office of Seutler & Shanda, 425 Moore Bldg., San Antonio, or may be had on deposit of \$10.

Tex., Taylor.—City will vote August 29 on \$15,000 bond issue for school improvements; C. M. Still, Mayor. (This bond issue previously noted as voted, but was not approved by State Department.)

Tex., Winnie.—Trustee of Common School District No. 19 of Chambers county will receive bids until August 4 to erect two-story brick school building; contractors to furnish plans for superstructure; plan of foundation and general specifications from T. A. Jenkins, secretary of School Board.

Tex., Yoakum.—City will erect two-room school in the "Y." Address The Mayor.

Va., Concord Depot.—School Board, E. G. Peerman, chairman, will erect four-room school building to replace burned structure.

Va., Driver.—Sleepy Hole school district voted \$16,000 bond issue to erect additional building at Second District Agricultural High School. Address District School Trustees.

Va., Keysville.—City defeated \$8000 bond issue to erect school; H. D. Peters, Mayor. (Recently noted.)

Va., Rustburg.—Rustburg School Board, E. G. Peerman, chairman, will erect one-room school buildings at Harlowes and Winfall.

W. Va., Clarksburg.—City voted \$275,000 bond issue for school improvements. Address The Mayor. (Recently noted.)

W. Va., Ridgely.—Board of Education of Frankfort district will receive bids until August 5 to erect addition to school; 38x27 feet; ordinary construction; cost \$2500; plans at office of Geo. F. Sansbury, architect, Rooms 9 and 10 Citizens' Bank Bldg., Cumberland, Md.

W. Va., Valley Grove.—Liberty District Board of Education contemplates erection of school to replace present structure; J. H. Lazear, County Superintendent.

STORES

Ala., Birmingham.—S. D. Stephens will erect business building; one story; frame; cost \$3060.

Ala., Birmingham.—Moses Levy will expend \$4600 to alter and repair building on Ave. D and 20th Sts.

Ala., Birmingham.—H. G. Selbie will erect building; two stories; frame; cost \$6000.

Ala., Corey, P. O. at Birmingham.—Corey Land Co., 2024 Third Ave., Birmingham, will erect two two-story and two one-story buildings; frame; cost \$8100.

Ala., Gadsden.—S. A. and S. E. Jordan will erect wholesale building.

Ark., Little Rock.—R. Eisenberg has plans by Mr. Dill, Little Rock, for business building at 2d and Victory Sts.

Ala., Mobile.—R. G. Moore will erect building; two stories; frame.

D. C., Washington.—Woodward & Lothrop, 10th, 11th, F and G Sts. N. W., have plans by Milburn, Helster & Co., Home Life Bldg., Washington, for three store buildings at 1219-21 G St. N. W.; one story; brick; construction in charge of S. H. Edmonds, 1423 Harvard St. N. W.

D. C., Washington.—P. J. Nee, 745 7th St. N. W., has plans by B. Stanley Simmons, 1301 G St. N. W., Washington, for store and apartment building; 38x75 feet; hot-water heat; electric lighting; bids opened.

Fla., Tampa.—G. Ferlita will erect business building at Nebraska Ave. and Twiggs St.; five stories; brick; cost \$65,000 to \$75,000.

Fla., West Palm Beach.—Pioneer Bank will erect store, bank and office building. (See "Bank and Office.")

Ga., Atlanta.—Thomas H. Pitts Cigar & Tobacco Co., Peachtree and Decatur Sts., leased Collier Bldg. at Peachtree, Edgewood and Decatur Sts. and will remodel.

Ga., Atlanta.—Mrs. J. W. Bridge will erect building; cost \$3500.

Ga., Atlanta.—Edgar Dunlap will erect store building; cost \$3500.

Ga., Macon.—Dr. W. G. Lee has plans by Curran R. Ellis, Macon, for store building; 52x111 feet; mill construction; steam heat; electric lighting; cost \$15,000; bids opened. (Recently noted.)

Ga., Savannah.—Maurice Kaplan & Bro. purchased building at 17 Perry St., and will remodel.

Ky., Middlesboro.—Isaac Euster of Euster, Ginsburg & Co. will erect additional story to one-story structure under construction.

Ky., Williamsburg.—J. L. Whitehead will rebuild store building recently reported burned; 30x100 feet; plans not determined; architects invited to submit plans and specifications.

La., New Orleans.—W. J. Blessey will erect double dwelling; two stories; frame; cost \$4100.

La., New Orleans.—Frank McGloin, 1010 Ilibernia Bldg., may be addressed relative to store to be erected by Mrs. August Bohne. (Recently noted.)

La., New Orleans.—Woodward, Wight & Co., Ltd., will erect warehouse, store and office building. (See "Warehouses.")

Mo., Joplin.—Edward Zelleken will erect business building; brick; two or more stories.

Mo., Kansas City.—Reinhardt & Schibley will erect store building; brick; cost \$5000.

Mo., Kansas City.—Ludwig Renner will erect store and apartment building. (See "Apartment-houses.")

Mo., St. Louis.—Regal Shoe Co., 818 Olive St., will erect store building at Sixth and Washington Ave.

Mo., St. Louis.—Bender Fish & Oyster Co. will erect mercantile building; two stories; cost \$10,000.

Mo., St. Louis.—Thurles Realty Co. will erect store and tenement-house. (See "Apartment-houses.")

S. C., Saluda.—Eugene W. Able will receive bids to erect store building; two stories; 25x100 feet; plans and specifications on file with Mr. Able; material furnished by owner.

Tenn., Nashville.—Goodlett Realty Co. will erect store and office building. (See "Bank and Office.")

Tenn., Nashville.—A. L. Hach will erect business building.

Tenn., Nashville.—I. R. Page will erect business building; two stories; cost \$10,000 to \$15,000.

Tex., Dallas.—Mrs. J. C. Conway will erect business building; three stories; brick; cost \$8500.

Tex., Dallas.—John N. Simpson is having plans prepared by H. A. Overbeck, Dallas, for proposed store and office building. (See "Bank and Office.")

Tex., Taylor.—D. F. Smith will erect business building; two stories; brick.

Tex., Houston.—H. Prince will erect store building; one story; semi-fireproof; 70x40 feet; cost \$8000.

Tex., Pecos.—Prewitt & Wadley will erect business building; concrete construction.

Tex., Stockdale.—L. R. Wheeler will erect second story to present brick structure.

Va., Richmond.—I. and I. H. Kaufman will erect store building; five stories and basement; steel and concrete; cost \$54,890.

Va., Richmond.—George Abraham will erect store and dwelling; two stories; brick; cost \$4500.

Va., Richmond.—A. Dill will expend \$5000 to remodel store at 401 E. Broad St.

Va., Richmond.—Edward J. Cook will erect business building to contain two stores and dwelling; brick; cost \$4000.

THEATERS

Fla., Key West.—Key West Amusement Co. has plans by Key West Construction Co., Key West, for proposed theater; seating capacity 900; 45x115 feet.

Mo., St. Louis.—Middleton Theater Co. will alter and erect addition to theater at 514 Market St.; cost \$10,000.

WAREHOUSES

Ala., Ashford.—W. H. Herrington and others will expend \$4000 to erect warehouse; 68x194 feet; brick and wood; construction begun; plans and construction by Mr. Herrington. (Recently noted.)

Ark., Conway.—Frauenthal & Schwarz will erect warehouse; brick; concrete floors; capacity for 40 carloads of merchandise.

Ark., Little Rock.—J. J. Mahoney has plans by Mr. Dill, Little Rock, for warehouse.

Fla., Jacksonville.—Georgia Supply Co., Thomas J. Peterson, secretary, Savannah, Ga., will erect warehouse and office building; three stories; 117x108x50x10 feet; approximately 25,000 feet floor space; reinforced concrete; cost about \$50,000.

Ga., Augusta.—S. Lesser will erect cotton warehouse and office building; two stories; brick; warehouse to have two compartments each with capacity of 1000 bales of cotton.

BUILDING CONTRACTS AWARDED

APARTMENT-HOUSES

D. C., Washington.—Roger O. Hanlon awarded contract to B. P. Feringer to erect three apartment-houses at 1101-3-5 Q St. N. W.; two stories; brick; cost \$18,500; plans by A. P. Clark, Jr., 816 14th St. N. W., Washington.

S. C., Greenville.—W. A. Wallace awarded contract to erect eight tenement-houses; three rooms each.

Tex., Port Arthur.—E. A. Lambert awarded contract to H. W. McCord, Port Arthur, to erect store and apartment building. (See "Stores.")

ASSOCIATION AND FRATERNAL

Okla., Sallisaw.—Trustees of Masons and Odd Fellows Lodges, W. O. Reeves, secretary of committee, awarded contract to Blenkins & Leigh, Van Buren, Ark., to erect lodge building; 40x100 feet; three stories; brick; ordinary construction; cost \$10,000; plans by J. M. McCalman, Sallisaw. (Previously noted.)

Tex., Tlaga.—Woodmen of the World awarded contract to erect sanitarium; cost \$15,000 to \$20,000; Dr. W. A. Fraser, Dallas, Tex., is interested. (Previously noted.)

BANK AND OFFICE

Mo., Kansas City.—American Union Trust Co. awarded contract to erect bank and office building at 12th St. and Baltimore Ave.; eight stories.

N. C., Monroe.—Belk & Bundy awarded contract to G. M. Tucker, Monroe, to erect office and store building; cost \$15,000. (Recently noted. See "Stores.")

S. C., Chester.—Commercial Bank awarded contract to Carolina Construction Co., Greensboro, N. C., to erect building; 60x100 feet; semi-fireproof; low-pressure steam heat; cost \$20,000; plans by Shand & Lafaye, Columbia, S. C. (Previously noted.)

Tex., Brownsville.—First National Bank awarded contract to Hoggson Bros., 7 E. 44th St., New York, to erect bank building; 90x37 feet; ordinary construction. (Recently noted.)

Tex., Laredo.—Albert Urbahn awarded contract to S. E. Pfeuffer, Laredo, to erect office building; one story; cost \$5000.

Ga., Statesboro.—Raines Hardware Co. will erect warehouse; 50x200 feet; two stories; galvanized iron; will install elevator; cost \$2500.

Ga., Statesboro.—Raines Hardware Co. is reported to erect warehouse.

La., New Orleans.—Woodward, Wight & Co., Ltd., will erect store, office and warehouse building; probably four stories; brick and steel; 200x290 feet; is having plans prepared by Emile Well, New Orleans.

Md., Baltimore.—Page Engineering Co., 113-121 E. York St., will erect warehouse on Claggett St., South Baltimore. (See "Foundry and Machine Plants.")

Md., Baltimore.—Home Circle Realty Co. has plans by Frank & Kavanagh, 328 N. Charles St., Baltimore, for improvements to warehouse at 10th W. Baltimore St., to cost about \$6000, including ornamental store front to replace present front, installation of high-speed elevators, new plumbing system, etc.

Md., Baltimore.—American Ice Co., 309-19 Calvert Bldg., is having plans prepared by Martensen & Co., New York, for storage house near 23d St. and Hampden Ave.; one story; frame; 50x90 feet.

Mo., St. Louis.—Crane & Co. will erect warehouse; one story; cost \$20,000.

Tex., Amarillo.—Amarillo Mill & Elevator Co., A. G. Boyce, president, will erect 68x85-foot warehouse. (See "Flour, Feed and Meal Mills.")

Tex., Fort Worth.—I. H. Burney, E. E. Bewley, R. D. Gage and others contemplate erection of warehouse; 200x100 feet; five stories; 100,000 square feet floor space; cost \$75,000.

Tex., Fort Worth.—City will erect storehouse; W. D. Davis, Mayor. (See "City and County.")

Tex., Franklin.—Franklin Furniture & Hardware Co. will erect warehouse; construction begun.

Va., Richmond.—G. G. Worsham and C. A. Zinke will erect warehouse; four stories; brick; cost \$23,000.

W. Va., Bluefield.—Walter Perkins will erect warehouse; three stories; reinforced concrete and brick; 130x145 feet; cost about \$20,000; construction begun.

Va., Richmond.—National State Bank awarded contract to John W. Wilson, Richmond, to remodel bank building; cost \$32,000; plans by Clinton & Russell, New York.

CHURCHES

Fla., Fort Meade.—Methodist congregation awarded contract to Samuel S. Moore, Tampa, Fla., to erect proposed edifice.

Md., Baltimore.—First Church of Christ, Scientist, awarded contract at \$60,000 to D. M. Andrew & Co., Eastern Ave. and 12th St., for stone work for edifice on University Parkway; Grecian style; ornamental facade of marble; tile roof; concrete foundation; stained-glass windows; plans by Charles E. Cassell & Son, Law Bldg., Baltimore. (General contract recently noted awarded to Thomas P. Johns, 405 McCulloh St., Baltimore.)

N. C., Winston-Salem.—West End Methodist Church awarded contract to Ange Construction Co., Winston-Salem, to erect proposed edifice; pressed brick; terra-cotta trimmings; Indiana limestone base; seating capacity over 1000 people; cost \$40,000; plans by Wheeler & Stern, Charlotte, N. C.; heating, lighting fixtures, hardware, art glass and seating not included in contract.

N. C., Winston-Salem.—Brown Memorial Baptist Church, Rev. George T. Lumpkin, pastor, awarded contract to Fogle Bros. and S. H. Hall, Winston-Salem, to complete edifice; 60x115 feet; ordinary construction; pressed brick; white granite trimmings; steam heat; cost \$35,000; plans by C. H. Barrett, Winston-Salem. (Recently noted.)

Okla., Oklahoma City.—First English Lutheran Church awarded contract to Western Construction Co., Oklahoma City, to erect proposed edifice; two stories; argonite and white brick; cost \$45,000.

S. C., Sumter.—First Methodist Episcopal Church South awarded contract to Lee Harbin, Lexington, S. C., to erect edifice; cost \$40,000; plans by Wheeler & Stern, Charlotte, N. C.; pews, art glass, heating and electric fixtures not included in contract. (Previously noted.)

Tenn., Harms.—Church of Christ awarded contract to Robertson & Parks, Fayetteville, Tenn., to erect edifice; 36x50 feet; concrete blocks; plans by L. J. Robertson, Fayette-

ville, Tenn.; W. Smith, Fayetteville, may be addressed. (Recently noted. See "Machinery Wanted.")

Tex., Crystal City.—Baptist Church, Rev. B. G. Holloway, pastor, awarded contract to H. F. Hutchinson, Sabin, Tex., to rebuild edifice; 45x46 feet; ordinary construction; electric lighting; cost \$2000; plans by M. C. Rice, New York. (Recently reported burned.)

CITY AND COUNTY

La., New Orleans.—Fire Station.—City awarded contract to J. W. Lennox, 20 Elmira Ave., New Orleans, to erect fire station; main building 30x55 feet; two stories; rear part 15x160 feet; one story; brick and frame; cost \$14,000; plans by A. E. Christy, City Hall, New Orleans. (Recently noted.)

Miss., Aberdeen.—City Hall.—City awarded contract to Addison Brannin, Aberdeen, to erect city hall, and to T. R. Warburton, Aberdeen, for plumbing; 100x80 feet; fire-proof construction. (Previously noted.)

Mo., Kansas City.—Barn.—Jackson county awarded contract to Christian Yetter, Independence, Mo., to erect dairy barn at McCune Home; 62x71 feet; concrete basement; cost \$10,000.

S. C., Chester.—Jail.—City awarded contract to Champion Iron Co. of Kenton, O., for steel work for jail, including three cells 5x7 feet and steel corridor 5x15 feet; general contract awarded to J. A. Jones, 404 Realty Bldg., Charlotte, N. C.

Va., Chatham.—Jail.—Pittsylvania county awarded contract to Camden Iron Works, Salem, Va., to erect addition to jail; cost (including steam heat and steel cells), \$900. (Recently noted.)

Va., Chatham.—Jail.—Pittsylvania county awarded contract for improvements and addition to jail; S. S. Hurt, clerk. (Recently noted.)

COURTHOUSES

Tex., Andrews.—Andrews county will expend \$6000 to erect courthouse; 41x41x26 feet; mill construction; plans by W. H. Kelly, Pecos, Tex.; contract recently noted awarded to F. M. Knight, Andrews.

DWELLINGS

Ark., Conway.—First Baptist Church, Rev. J. J. Hurt, pastor, awarded contract to Kelso & Salter to erect parsonage; two stories; eight rooms.

Ark., Little Rock.—W. B. Worthen awarded contract to B. Holstege, Little Rock, to erect residence; two stories; pressed brick veneer; slate roof.

Ark., Little Rock.—L. Koers awarded contract to B. Holstege, Little Rock, to erect two residences; frame construction.

D. C., Washington.—M. A. Woodward has plans by and awarded contract to J. W. Powell, 1151 5th St. N. E., Washington, to erect dwelling at 2309 Calvert St.; three stories; brick and frame; cost \$10,000; 25x47 feet; ordinary construction; hot-water heat; gas and electric lighting.

D. C., Washington.—Percival D. Emmert, 1110 15th St. N. W., awarded contract to Louis H. Emmert, 1110 15th St. N. W., Washington, to erect lodging-house at 1705 New York Ave. N. W.; four stories; brick, iron and cement; cost \$30,000; plans by owner.

D. C., Washington.—C. W. Richardson, 1207 Connecticut Ave. N. W., awarded contract to S. H. Edmondston, 611 G St. N. W., Washington, to erect dwelling on Grant Rd. near Connecticut Ave.; two stories; frame and brick; cost \$50,000; plans by Marsh & Peter, 520 13th St. N. W., Washington.

D. C., Washington.—E. C. Cooke has plans by and awarded contract to H. R. Howenstein, 1314 F St. N. W., Washington, to erect two two-story brick dwellings at 1308-13 S St. S. E.; cost \$6200.

D. C., Washington.—Carl A. Droop, 12th and G Sts. N. W., awarded contract to J. F. Newman, Colorado Bldg., Washington, to erect dwelling at 1840 Wyoming Ave.; three stories; brick; cost \$19,000; plans by Harding & Upman, 729 15th St. N. W., Washington.

Fla., Daytona.—Frank T. Peck awarded contract to erect two bungalows.

Ga., Savannah.—T. B. O'Neal will expend \$7500 to erect residence; 32x63 feet; mill construction; gas and electric lighting; plans by W. T. Hussey, Savannah; contract (recently noted) awarded to J. H. Cook & Co., Savannah.

Fla., Titusville.—C. G. Rogero awarded contract to erect residence.

Fla., Titusville.—Dr. Spell awarded contract to erect residence.

Ga., Macon.—D. R. Rodgers awarded con-

tract to C. C. Hays, Macon, to erect residence; brick veneer; cost \$4000; plans by Curran R. Ellis, Macon.

Md., Baltimore.—Frank H. McMullen awarded contract, it is reported, to erect bungalow at Beula Villas to Provident Realty Corporation, Garrison and Piedmont Aves., Baltimore; one and a half stories; overhanging slate roof; concrete foundation; electric lights; hot-water heat.

Mo., St. Louis.—Simon Markiewicz awarded contract to F. J. Fendler, 6001 Virginia Ave., St. Louis, to erect two-story tenements; brick and stone; cost \$9000; plans by Emil C. Fendler, 714-A Dover Pl., St. Louis.

N. C., Greensboro.—John W. King awarded contract to Holiday & Crouse, Greensboro, to repair dwellings reported burned; cost \$3000.

N. C., Salisbury.—Mrs. D. A. Goodman awarded contract to J. D. Brown, Salisbury, to erect residence.

Okla., Oklahoma City.—H. F. Rusch has plans by and awarded contract to F. E. Fagerquist, Insurance Bldg., Oklahoma City, to erect dwelling; 28 feet 6 inches by 32 feet; mull construction; hot-air heat; electric lighting; cement sidewalks; cost \$2800. (Recently noted.)

Tex., Dallas.—Arthur J. Whyte, 912 S. Harwood St., awarded contract to J. S. Schollar, Dallas, to erect eight-room-and-basement dwelling; ordinary frame construction; hot-water heat; cost \$5000; plans by Associated Architects, 513 Slaughter Bldg., Dallas.

Tex., Denton.—College of Industrial Arts, W. B. Bizzell, president, will expend \$6000 to erect president's residence; 37x44 feet; two stories; mill construction; hot-air heat; electric lighting; plans by Endress & Walsh, Austin, Tex.; contract recently noted awarded to W. F. Maxey, 59 Lula St., Denton. (See "Machinery Wanted.")

Tex., Uvalde.—J. H. Zachrey awarded contract to F. E. Kinney, Uvalde, to erect residence.

Tex., Bastrop.—J. Jenkins awarded contract to J. L. Wilbarger, Bastrop, to erect dwelling; five rooms; cost \$2100; plans by R. Pierce, San Antonio, Tex. (Recently noted.)

Va., Norfolk.—H. A. Williams awarded contract to Turpin Bros., Norfolk, to erect residence; cost \$5000.

Va., Norfolk.—John Gustavson's dwelling will be three stories and basement; 35x42 feet; brick basement; frame superstructure; heating and lighting to cost \$775; slate roof; storm sheathed; cost \$7000; plans by owner; contract recently noted awarded to Charles P. Plummer, Norfolk.

Va., Portsmouth.—Lewis Miller awarded contract to Portsmouth Building Corporation, Portsmouth, to erect residence; cost \$900.

W. Va., Wheeling.—Sacred Heart Church awarded contract to erect residence as follows: for brick work to N. C. Hamilton & Sons; carpenter work to John Murphy; plastering to W. N. Fahey and painting to W. E. Ray, all of Wheeling; plans by Gelsey & Paris, Wheeling.

HOTELS

D. C., Washington.—Mrs. Rosa M. Cochran awarded contract to R. L. Parry, 106 13th St. N. W., Washington, to repair hotel at 1000 14th St. N. W.; cost \$7129; plans by Thomas W. Power Engineering Co., 902 F St. N. W., Washington.

MISCELLANEOUS

Ala., Troy.—Stable.—John Jirnight awarded contract to Dowling Ogletree, Troy, to erect stable; brick; 50x100 feet.

D. C., Washington.—Hospital.—Georgetown University Hospital awarded contract to F. A. Volland, 1333 9th St. N. W., Washington, to erect hospital building at 3524 N St. N. W.; four stories; brick; cost \$56,000; plans by C. A. Didden, Corcoran Bldg., Washington.

D. C., Washington.—Stable.—F. P. Harmon awarded contract to John A. Nolan, 1413 G St. N. W., Washington, to erect stable at 1815 20th St. N. W.; two stories; brick; cost \$300; plans by A. P. Wilson.

Ga., Macon.—Garage.—H. T. Haley awarded contract to R. H. Smalling & Sons, Macon, to erect garage; brick and stone front; pergola roof garden; cost \$5000; plans by Curran R. Ellis, Macon.

Ga., Macon.—Cafe.—Charles Bakakas awarded contract to W. J. Robins, Macon, to remodel B. and B. Cafe; plans by Curran R. Ellis, Macon.

Ga., Tifton.—Fair Buildings.—S. N. Adams, Tifton, has contract to erect main exposition building for South Georgia Land and Agricultural Exposition.

Md., Baltimore.—Shed.—National Casket Co., Lombard St. and Jones Falls, is reported to have awarded contract to Deltrich Bros., Pleasant and Davis Sts., Baltimore, to erect steel shed; 150x38 feet; cost \$3000.

Mo., Kansas City.—Garage, etc.—John Taylor Dry Goods Co. awarded contract to Lonsdale Bros., Bryant Bldg., Kansas City, to erect garage and store; 60x31 feet; ordinary construction; steam heat; electric lighting; plans by Henry F. Holt, 315 E. 10th St., Kansas City. (Recently noted.)

Tex., Beaumont.—Undertaking Parlors.—A. E. Broussard will expend \$9750 to erect mortuary parlors, morgue and stables; 40x118 feet; ordinary construction; electric lighting; hand-power elevator; contract recently noted awarded to James Wellman. (See "Machinery Wanted.")

Tex., Buckholts.—Sanitarium.—Dr. W. R. Newton has plans by and awarded contract to Jeff Reeder, Buckholts, to erect sanitarium recently noted; 29 bedrooms; ordinary construction; steam heat; electric lighting; cost \$10,000; may install small laundry outfit. (See "Machinery Wanted.")

Va., Richmond.—Substation.—M. L. Hoffmeister awarded contract to A. C. Houston & Sons, 915 E. Main St., Richmond, to erect substation A; cost \$15,000; plans by C. M. Robbins.

RAILWAY STATIONS

Md., Port Deposit.—Pennsylvania Railroad, Alex. C. Shand, chief engineer, Philadelphia, Pa., awarded contract to Reed & Co., Wilmington, Del., to erect station; Port Deposit granite and shingles. (Recently noted.)

Mo., Kansas City.—Kansas City Terminal Railway Co., John V. Hannah, chief engineer, awarded contract at more than \$100,000 to Freeborn Engineering & Construction Co., Kansas City, for 100,000 yards of crushed stone for subways and viaducts on Belt line; contract for erection of station buildings estimated to cost about \$5,500,000 reported as awarded to George A. Fuller Company, Fuller Bldg., New York; plans ultimate expenditure of \$35,000,000 for station buildings, land development, etc.; plans by Jarvis Hunt, Chicago, Ill. (Previously mentioned.)

N. C., Statesville.—Southern Railway Co. did not award contract to build station; recent report was an error.

Okla., Chickasha.—Oklahoma Central Railway Co. awarded contract to Lisle-Dumind Construction Co., Oklahoma City, Okla., to erect superstructure of railway station; steel and concrete; cost \$30,000; contract for substructure recently noted awarded to W. F. Warfield of Chickasha.

SCHOOLS

Ark., Texarkana.—School Board awarded contract at \$64,490 to Texas Building Co., Fort Worth, Tex., to erect high-school building; plans by Witt, Siebert & Co., Texarkana. (Recently noted.)

D. C., Washington.—Georgetown University awarded contract to Boryer & Smith, 214 12th St. N. W., Washington, to erect dental infirmary at 929 H St. N. W.; cost \$4750; plans by Paul & Pels.

La., Bayne.—City will expend \$15,553 to erect school building; 57x88 feet; ordinary construction; heating plant to cost \$2300; plans by George Honold, Abbeville, La.; contract recently noted awarded to Caldwell Bros., Abbeville, La.

La., Belcher.—Caddo Parish School Board awarded contract at \$18,000 to John Arthur, Shreveport, La., to erect proposed school; plans by Nield & Owens, Shreveport, La.

Md., Baltimore.—Friends School awarded contract to Willard E. Harn Company, 213 N. Calvert St., Baltimore, to erect addition to school; 20x55 feet; steam heat; plans by C. M. Anderson, 324 N. Charles St., Baltimore. (Recently noted.)

Miss., Aberdeen.—City awarded contract to Addison Brannin, Aberdeen, to erect negro school. (Previously noted.)

Miss., Hattiesburg.—Board of Education awarded contract to Burkes Bros. & Fleming, Hattiesburg, to erect high-school building; cost about \$30,000; plans by R. E. Lee, Hattiesburg. (Previously noted.)

Miss., Meridian.—City awarded contract to C. H. Dabb & Co., Meridian, to erect manual training and primary school buildings; brick; cost \$40,000 and \$30,000, respectively; plans by P. J. Krouse, Meridian.

Okla., Rocky.—School Board, E. D. Evans, clerk, awarded contract to A. J. Puckett, Chickasha, Okla., to erect school building; G. K. Harris has contract for heating; plans by H. E. Williams, Chickasha, Okla. (Recently noted.)

Tex., Brenham.—City awarded contract to

Alexander Griffin, Brenham, to erect school; cost \$9000, exclusive of plumbing; plans by C. H. Page & Bro., Austin, Tex. (Recently noted.)

Tex., Dallas.—St. Edward's Church awarded contract to Hughes-O'Rourke Construction Co., Dallas, to erect proposed parochial school; mission style; ornamental face brick trimmed with stone.

Tex., Dallas.—Dallas Free Kindergarten Association awarded contract to Hughes-O'Rourke Construction Co., Dallas, to erect school; 50x150 feet; two stories and basement; mezzanine on first floor; plans by Miss Mary King Drew and Lang & Witchell, Dallas. (Previously noted.)

Tex., Denison.—School Board awarded contract to erect two additions to school buildings; 35x38 feet; two stories; ordinary construction; reinforced concrete stairs; electric lighting; cost \$888.88; plans by John Tullock, Sherman, Tex.

Tex., Shafter Lake.—City awarded contract to Mr. Colb, Seminole, Tex., to erect proposed school; concrete; cost \$5000.

W. Va., Boiesevain.—Clear Fork district awarded contract to Graham (Va.) Contracting Co. to erect proposed school.

W. Va., Sherrard.—Marshall county awarded contract to William Riggs, McMechen, W. Va., to erect school; brick and stone; seven rooms and auditorium; two stories and basement; subcontract for brick work awarded to Bodley & Phillips, Moundsville, W. Va.; plans by W. D. McCarty, Wheeling. (Previously noted.)

STORES

Ala., Cordova.—E. T. Hendon will erect business building; two stories; brick; 50x120 feet; cost \$9000; plans and construction by S. L. Banks, Cordova; construction begun.

D. C., Washington.—W. M. Gass, Park Rd. and Sherman Ave., awarded contract to O. N. Wilkerson to erect store at 3423 Sherman Ave. N. W.; two stories; brick; cost \$12,000; plans by W. S. Plujer.

Fla., Pensacola.—James M. Muldon awarded contract to erect business building; two stories; cost \$15,000 to \$20,000.

Ga., Augusta.—C. J. Strom awarded contract to H. C. Morrison to erect store building; one story; brick; 44x70 feet; cost \$4000.

Ga., Cedartown.—A. E. Young and E. C. Denton awarded contract to William Summers and J. A. Mann, Cedartown, to erect business building; two stories; brick; 50x120 feet.

Mo., Kansas City.—John Taylor Dry Goods Co. awarded contract to erect store and garage. (See "Miscellaneous Structures.")

N. C., Monroe.—Belk & Bundy awarded contract to G. M. Tucker, Monroe, to erect store and office building; cost \$15,000. (Recently noted.)

N. C., Raleigh.—Boylan-Pearce Co. awarded contract to J. H. Pierce & Son, Raleigh, to erect business building; three stories; white pressed brick; terra-cotta trimmings; 30x210 feet; cost \$40,000.

N. C., Salisbury.—M. S. Brown awarded contract to A. R. Lazenby, Salisbury, to erect three stores; cost \$5000.

S. C., Greenville.—N. G. Long, Atlanta, Ga., awarded contract to J. W. Ethridge, Atlanta, Ga., to erect proposed store building; 11

storerooms and basement; brick; 330x120 feet; construction to permit erection of additional story; will also remodel interior of building on site to provide two storerooms; cost about \$15,000.

Tenn., Nashville.—B. H. Stief Jewelry Co. awarded contract to L. T. Lewis Company, Nashville, for excavation and construction of foundation for proposed building at Church St. and Capitol Blvd.

Tex., Dallas.—Texas Machinery & Supply Co. awarded contract to Hughes-O'Rourke Construction Co., Dallas, to erect business building; three stories; reinforced concrete; 200x50 feet; fireproof; heavy capacity elevators; cost \$35,400; plans by Lang & Witchell, Dallas. (Recently noted.)

Tex., Port Arthur.—E. A. Lambert awarded contract to H. W. McCord, Port Arthur, to erect business building; two stories; brick; 50x70 feet; cost \$10,000; lower floor for stores; upper floors for apartments; plans by Mr. Crosby.

Tex., Mexia.—Anderson Furniture Co. will expend \$4800 to erect furniture store; 28 feet 9 inches by 115 feet; ordinary mill construction; plans by Hicks McCaulis, Ennis, Tex.; contract recently noted awarded to J. F. Penning, Mexia.

Tex., Mission.—Ramon Veia awarded contract to erect business building; two stories; brick.

Tex., Orange.—A. O. McLean awarded contract to Tom Ellis, Orange, to erect addition to store building; two stories.

Va., Roanoke.—Valley Realty Corporation awarded contract to R. K. Stewart, Roanoke, to remodel business building; one story; install elevator, etc.

THEATERS

Va., Richmond.—M. L. Hoffmeister awarded contract to A. C. Houston & Son, 915 E. Main St., Richmond, to erect moving-picture theater; 30x135 feet; cost \$15,000; plans by C. K. Howell. (Previously noted.)

WAREHOUSES

Md., Baltimore.—M. F. McCormick awarded contract to Morrow Bros., 216 E. Saratoga St., Baltimore, to erect warehouse and showroom on Howard St., near Mulberry St.; plans not decided.

Md., Baltimore.—Standard Oil Co., 20 Broadway, New York, awarded contract to J. J. Walsh & Son, 1533 Maryland Ave., Baltimore, to erect warehouse at Canton; two stories; brick; stone and concrete; cement and sheet-metal flooring; slag roof; reinforced concrete foundation; plans by Haskell & Barnes, 407 Wilson Bldg., Baltimore. (J. J. Walsh & Son recently noted as lowest bidders.)

N. C., Wilmington.—Seaboard Air Line Railway, W. L. Seddon, chief engineer, Portsmouth, Va., awarded contract to Christian Construction Co., Durham, N. C., to erect proposed warehouse; frame; cost \$80,000.

Tenn., Ripley.—William Tucker & Co. awarded contract to F. W. McCabe to erect warehouse; 25x85 feet; fireproof construction; cost \$2500. (Recently noted.)

W. Va., Lansing.—Lorain Coal & Dock Co., recently noted to erect storeroom, has its main office at Columbus, O.; structure will be at Lansing, O., and not West Virginia; two stories; frame; 30x100 feet; awarded contract for construction to Seneca Lyle, probably of Bridgeport, O.

RAILROAD CONSTRUCTION

RAILWAYS

Ala., Birmingham.—Reported that the Birmingham Southern Railroad is surveying for a line to Selma via Bessemer. F. H. Crookard is vice-president and general manager at Birmingham. J. B. McIntyre is chief engineer at Ensley, Ala.

Ala., Decatur.—The Southern Railway is reported surveying for a three-mile line into New Decatur. W. H. Wells is chief engineer of construction at Washington, D. C. He says that no such survey has been made by his department, nor has he had any advice that the company is making it.

Ala., Mobile.—The Mobile-West Shore Traction Co. has filed incorporation articles to build a standard-gauge railroad from Mobile to Alabama Port near the western shore of Mobile Bay. Capital \$10,000, of which \$2500 is paid in. Directors: H. Austill, president; J. N. McAleer, vice-president; E. E. Posey, secretary and treasurer; W. B. Delchamps, John R. Penry and Charles G. Ollinger.

Ala., Reform.—Reported that the Tombigbee Valley Railroad is surveying for an extension to the coal fields of Walker, Fayette and

Winston counties. John T. Cochrane of Mobile is president, and Wm. Toxey of York, Ala., chief engineer.

Ark., Little Rock.—The Rock Island system is reported to have bought 24 miles of the Little Rock, Hot Springs & Western Railway between Little Rock and Benton. Improvements may be made. J. B. Berry is chief engineer of the Rock Island lines at Chicago, Ill.

Fla., Haines City.—The Atlantic Coast Line, says a report, has completed grade on its branch from Haines City to Avon Park, which is to be continued to Lake Childs, 43 miles, and be completed by January next.

Ga., Apalachee.—The Greene County Railroad Co., capital \$100,000, has been granted the charter requested to build a 20-mile line from Apalachee to Monroe, which will include the Bostwick Railroad, it is said, five miles long from Apalachee to Bostwick. It may be extended to Greensboro. W. H. Patterson of Atlanta and others are the incorporators.

Ga., Blakely.—President W. C. Snodgrass, Thomasville, Ga., confirms report that the

Blakely Southern Railroad, which proposes to build from Blakely to Jakin, Ga., 22 miles, has acquired the Flowers Lumber Co. tram road, this being the closing of a deal made some time ago.

Ga., Gainesville.—Reported that a new line to be called the Gainesville & Northwestern Railway will be built from Gainesville to Robertstown, Ga., 30 or 35 miles, with close alliance to the Gainesville Midland Railway. George J. Baldwin of Savannah, who is president of the latter, may give information.

Ga., Haley Dale.—The Millen & Newington Railroad Co. is reported to have applied for charter to build its proposed line from Millen to Newington and some point on the Brinson Railway, 25 miles; capital \$25,000. E. S. McLane, H. S. McCall and others are incorporators.

Ga., Jackson.—Tracklaying is reported begun on the Middle Georgia Interurban Railway, under construction by Capt. W. F. Smith from Jackson to Indian Spring, with branch to Griffin.

Ky., Catlettsburg.—The Ashland Coal & Iron Railroad, it is reported, will build an extension up Keyes Creek to develop 3000 acres of coal land. W. B. Seaton is president and general manager at Ashland, Ky.

Ky., Louisville.—John Howe Peyton, assistant to the president, Louisville & Nashville Railroad, denies the recent press report that the company would build 1000 miles of double track and spend \$8,000,000 for reconstruction. He says he has no knowledge of the matter.

Ky., Harlan.—A dispatch says that Chas. P. Perin, 2 Rector St., New York, has leased the coal and timber lands of the Kentonia Corporation from Chas. H. Davis, and it is reported that a railroad will be built from Harlan, Ky., up Martin's Fork and Catron Creek to develop the property.

Ky., Hopkinsville.—The Tennessee Central Railroad, it is rumored, will build an extension from Hopkinsville to the Ohio River. L. F. Lonnbladh is chief engineer at Nashville, Tenn.

La., Jena.—A dispatch says that contract has been let to M. Tansey by the Louisiana & Arkansas Railway for its proposed extension from Jena to Jonesville.

La., New Orleans.—With reference to the revived report that the New Orleans Southern & Grand Isle Railway would build an extension to Grand Isle, C. D. Warren, president, Toronto, Canada, says that the company has not decided on any extensions or improvements; they will be under consideration for some months.

Miss., Meridian.—The Meridian & Deep Water Railway, according to a report quoting an officer, has begun construction of its line, to be 47 miles long from Meridian to the nearest deep water on the Tombigbee River in Alabama. Grade 1 per cent, and about 800,000 cubic yards of excavation. Bids for construction are reported asked. S. A. Neville is president and W. C. Stowall, chief engineer at Meridian, Miss. Another report, from Jackson, Miss., says the company has filed notice of organization; capital \$900,000. S. A. Neville is chairman of the board of directors, Charles Schofield secretary and W. C. Stowall treasurer.

Mo., Rolla.—The Missouri, Arkansas & Gulf Railway is reported to have awarded contract to P. A. Herrington of Houston, Mo., to grade 35 miles from Rolla to Licking, Mo., contract to be done by March next.

Mo., Kansas City.—The Kansas City, Clay County & St. Joseph Railway Co. is reported financed by the Townsend-Arnold syndicate to build its proposed line from Kansas City to St. Joseph and Excelsior Springs, Mo., and construction is to begin by autumn. George Townsend and others are interested.

N. C., Alma.—C. J. Cottingham, secretary and general manager of the Maxton, Alma & Southbound Railroad Co., says that it purchased the Alma Railway from Alma to Midway, operated by the Alma Lumber Co., and it is being extended 15 miles or more. The company will do the work; no contracts. A. J. McKinnon is president; R. M. Williams, vice-president; A. J. Steed, treasurer.

N. C., Charlotte.—The Southern Railway, says a dispatch, has let contract to Porter & Boyd of Charlotte for a connecting track 1½ miles long at about \$30,000. There will be 2000 yards of reinforced concrete and 3000 yards of macadam.

N. C., Raleigh.—The Raleigh, Charlotte & Southern Railway Co., which, as previously reported in the Manufacturers Record March 30, 1911, proposes to build a line 130 miles long from Raleigh to Charlotte, N. C., has, it is reported, decided to give E. C. Duncan an option of four months to utilize the charter, work to begin within that time. J. R. Ross of Asheville, N. C., is temporary president

and W. L. Mann of Albemarle temporary secretary. Others reported interested are L. A. Moody, S. H. Hearne and R. L. Smith of Albemarle, B. Noal, Henry Noal, H. A. London and F. C. Williams of Pittsboro, C. C. Crawford and D. B. McCrary of Asheville, N. C.

N. C., Southport.—President Z. W. Whitehead of the Wilmington, Brunswick & Southern Railroad Co., Wilmington, N. C., says it is the purpose of the company to continue construction to Lockwood's Folly, Shallotte, Calibash and Little River, S. C., and possibly to Charleston. Terminal facilities will be established at Southport, N. C.

N. C., Winston-Salem.—W. S. Lee, vice-president of the Piedmont Traction Co., Charlotte, N. C., says with reference to the report that an extension to Winston-Salem would be built that it is not contemplated at present to build any line excepting what is now under construction.

Okl., Granite.—The Oklahoma Empire Railway Co., which is surveying for a line from Granite west via Salton, Okla., into the Texas Panhandle, is reported to have elected officers thus: Thomas L. Eggleston, president, Granite, Okla.; W. R. Finlay, first vice-president, Victoria, B. C.; Thomas L. Eggleston, Jr., secretary and treasurer, Granite. Franchise to enter Granite has been requested.

Okl., Hammon.—The Wichita Falls & Northwestern Railway is reported to have let contract to Walter H. Dennison for nine miles of the construction from Hammon toward Supply, Okla. J. L. McSpadden also has a contract.

S. C., McEhee.—W. R. Bonsal of Hamlet, N. C., president of the North & South Carolina and also of the South Carolina Western Railway, is reported saying that survey will be started in a few days for the proposed line from McEhee via Bishopville to Sumter, S. C., 40 miles.

S. C., Aiken.—The Augusta-Aiken Railway & Electric Corporation has filed a mortgage to secure \$7,500,000 of bonds, part of which, it is currently reported, will be used for the long-expected extension from Aiken to Columbia. S. C. James U. Jackson is vice-president at Augusta, Ga. E. C. Deal, general manager, is reported saying that the money will be used to improve the property.

S. C., Charleston.—The Charleston & Northwestern Railway Co. has been granted the charter requested to build a line about 60 miles long from Charleston to Mt. Pleasant, Bonneau and McClellanville, S. C. A. C. Tuxbury of Montclair, N. J., is president. Others also interested as incorporators are Charles Hill of Montclair; Leonard D. Baldwin, Orange, N. J.; F. G. Davies, Wm. C. Miller, Richard S. Whaley and Wm. C. Bissell, all of Charleston, S. C. Mr. Miller is reported saying that survey will be made very soon.

Tenn., Alamo.—Mike Harvey, chief engineer, says that the Birmingham & Northwestern Railway has grading 80 per cent. completed and will be all done by August 15. Trestle work will begin about that date and tracklaying from the Jackson end about September 1. It is proposed to operate by October 1.

Tenn., Greeneville.—The Greeneville & Nolachucky Railroad is reported completed from Greeneville to the Nolachucky River, five mile, and construction is being pushed. It will be about 25 miles long.

Tenn., Jackson.—Dispatches say that the election was carried to issue \$100,000 of bonds to aid the extension of the New Orleans, Mobile & Chicago Railroad from Middleton, Tenn., to Jackson, the line to be completed by July next. W. F. Owen is vice-president and general manager at Mobile, Ala.

Tex., Abilene.—Press dispatches state that surveyors in charge of W. B. Smith, locating engineer, are locating the proposed extension of the Texas Central from Cross Plains to Abilene.

Tex., Wichita Falls.—The Wichita Falls & Northwestern Railway is inviting bids for the construction of bridges and track on 50 miles of railroad extension in the northwestern part of Oklahoma. R. A. Thompson is chief engineer at Wichita Falls. An officer is reported saying that the entire extension, which will be 84 miles from Hammon to Supply, Okla., via Leedy, Train, Vici and Woodward, will have maximum grade of .75 of 1 per cent, and maximum curve of 3 degrees. About 50,000 cubic yards of excavation per mile. Construction begun.

Va., Abingdon.—A press report says official advices state that the Virginia-Carolina Railway is locating lines for contemplated extension from mouth of Green Cove Creek over Palm Mountain and along Horse Creek and Helton to the north fork of New River,

thence to the mouth of Buffalo and to the south fork. W. E. Mingea is president and general manager at Abingdon, Va.

W. Va., Athens.—The Mercer Electric Railway Co. is quoted saying that it has begun construction of its line from Athens to Princeton, seven miles. Authorized capital, \$100,000; issued, \$32,000. R. G. Meador is president and general manager, T. B. Cook vice-president, J. F. Halroyd secretary, all of Athens, W. Va.

W. Va., Fairmont.—It is announced that the Fairmont & Mannington Railway will build two bridges over Buffalo Creek—one near Barrackville and the other near Underwood. W. M. Laws is vice-president and general manager at Fairmont, W. Va.

W. Va., Keyser.—The Twin Mountain & Potomac Railway, according to a report quoting an officer, will build its line from Keyser south via Arnold's Gap and Burlington to Twin Mountain, 25 miles, and contracts will be let about August 15. One steel bridge of 100 feet will be required. J. Clyde Lewis is chief engineer at Grafton, W. Va.

W. Va., Morgantown.—The Cheat River Development Co. is reported incorporated to build electric railways in Preston county, of which Kingwood is the county-seat; capital \$50,000. Charles W. Held, Wm. L. Hyatt, John M. Gleason, Frank P. Weaver and Glenn Hunter, all of Morgantown, are the incorporators.

W. Va., New Cumberland.—The Hancock County Electric Co. is reported chartered to build an electric railway in Hancock county; capital \$12,000; incorporators, Nelson D. Miller, John F. Flood, Harry E. Armstrong, Samuel E. McCoy and Samuel G. Stewart, all of Steubenville, O.

W. Va., Sistersville.—The Tyler Traction Co., H. W. McCoy, president, will receive bids until noon August 8 for construction of 11 miles of railroad. The work consists of excavating, tunnel excavation, bridge and culvert masonry and the laying of track. R. C. Venable is chief engineer at Sistersville.

W. Va., Parkersburg.—The Kanawha-Ohio Valleys Promoting Co. is reported incorporated with \$175,000 capital stock in West Virginia to build railways as follows: Parkersburg to Ripley, Ripley to Charleston, with branches to Millwood and through the valley of the Pocotaligo, and from Cicerone to Spencer, with branches; also contemplated to build from Blennerhassett Island to Vienna Island, around Parkersburg and another line

through the coal belt. Col. Albert E. Bonne of Zanesville, O., is said to be promoting the plans.

STREET RAILWAYS

Ark., Benton.—The Benton Traction Co. is reported incorporated to build a street railway with \$100,000 capital. M. H. Holleman, L. L. Lansing and L. B. White are the incorporators.

Fla., St. Petersburg.—The St. Petersburg Investment Co., it is reported, will build a street railway extension of 1¼ miles from the line at Second Ave. North and 7th St. to a point near Coffee Pot Bayou. J. C. Hamlett of Crockett Mills, Tenn., and others are interested.

Ga., Brunswick.—A dispatch says that the Brunswick Street Railway will build an extension to the boulevard, about a mile.

N. C., High Point.—C. H. Andrews, assistant manager of the North Carolina Public Service Co., is reported saying that it will make extensions of street railways in High Point. Nothing was announced as to the proposed Interurban from High Point to Greensboro.

N. C., Raleigh.—C. C. Jacobs, Durham, N. C., is reported to have been awarded contract by the Carolina Light & Power Co. to build its proposed extension to the Country Club, two miles.

Okl., Oklahoma City.—The Oklahoma Traction Co., L. E. Patterson, president, is reported to have begun construction of its proposed street railway system. Recently \$1,000,000 of bonds, it is said, were floated.

Tenn., Jonesboro.—Official: City will vote in September on \$25,000 of bonds to be used in building street railway in Jonesboro, also to Soldiers' Home and Johnson City. The line will probably cost \$75,000, and is to carry passengers, coal and freight. An extension may be built to Fall Branch, Tenn. W. C. Leab is City Clerk.

Tex., Amarillo.—A dispatch says that R. E. Davis is engineer in charge on the work to convert the 7th St. car line from gasoline motor service to electric car service.

Tex., Brownsville.—John Delernien is reported to have asked franchise for a street railway in Brownsville.

Tex., Brownsville.—The St. Louis, Brownsville & Mexico Railway is reported planning a motor car service on 12th St. to Point Isabel. John D. Finnegan is superintendent.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

Automobiles.—K. O. Kudson, Clifton, Tex., wants to correspond with automobile manufacturers; view to agency.

Automobiles.—See "Machinery, etc."

Bakers' Ovens.—H. N. Fitzgerald, Suffolk, Va., wants bread bakers' ovens.

Baking Machinery.—Pure Food Baking Co., B. F. Walters, president, Davis, W. Va., wants prices on baking machinery, including dough mixers, brakes, etc.

Beltting.—See "Machinery, etc."

Blackboards.—Board of Education, R. D. Hope, chairman, Sharon, S. C., wants prices on composition blackboards.

Bleaching Machinery.—American Exploration & Holding Co., El Paso, Tex., is prepared to correspond relative to data and prices on bleaching equipment.

Boilers.—Garner-Blakely Company, John S. Garner, president, Bainbridge, Ga., wants prices on upright boilers.

Boiler.—See "Canning Machinery."

Box Machinery.—Garner-Blakely Company, John S. Blakely, president, Bainbridge, Ga., wants prices on box machinery.

Bridge Construction.—Office of Police Jury, Madison parish, Tallulah, La. Proposals received until August 23, and then opened, for construction of steel bridge across Joe's Bayou at head of Joe Bayou Lake; roadway 12 feet; 130 feet long; span 75 feet; usual rights reserved; A. L. Slack, secretary.

Bridge Construction.—Yazoo County Supervisors, S. S. Griffin, clerk, Yazoo City, Miss., will award contract August 7 at public outcry in front of courthouse, for construction of bridge over Bear Creek, about

two miles from Pickens, Miss.; plans and specifications filed.

Bridge Construction.—Bids received until noon August 14 for construction of three reinforced concrete bridges in Loudoun county, one 173 feet over Catotcin Creek, one 42 feet over Tuscarora Creek and one 34 feet over Clarke's Creek; plans and specifications on file at office of State Highway Commission, Richmond, and at clerk's office; certified check \$25; for further information address P. St. J. Wilson, State Highway Commissioner, Richmond, Va.

Bridge Construction.—Bids for construction of third and fourth sections of municipal bridge, being foundation and retaining wall and steel construction of west approach under lettings Nos. 10,309 and 10,210, will be received by city of St. Louis, Mo., at Room 300, New City Hall, until 12 M. August 15. Plans, specifications, form of bid and other information can be had at office of president Board of Public Improvements.

Bridge Construction.—Bridge committee, P. E. Prudhomme, chairman, Bermuda, La., receive bids until noon August 31 for construction of steel highway bridge over Cane River; certified check \$600; for copies of plans and specifications address Ira W. Sylvester, C. E., Alexandria, La.

Bridge Masonry.—See "Railway Construction" below.

Bridge Work.—J. H. Crawford, clerk Jones county, Laurel, Miss., will receive bids until noon August 7 for erection of steel piers on Laurel and Myrick public road, for other repairs to span and erection of approaches; plans and specifications on file with clerk.

Bridge Work.—Carrollton & Prestonville Bridge Co., J. E. Gullion, receiver, Carrollton, Ky., will receive bids until noon August 15 for repairing bridge across Kentucky River at Carrollton, according to plans on file in office of receiver at Carrollton and of Pierce Butler, engineer, 303 Norton Bldg., Louisville, Ky.

Brush Machinery.—Tampa Brush & Specialty Co., E. P. Schlect, president, Tampa, Fla., will receive bids September 1 on machinery for manufacturing brushes.

Building Materials.—C. B. Ratliff, 212 First Ave., Birmingham, Ala., wants prices on steel beams, sash and doors, ornamental plaster caps, electric hoist, mill work, vault doors, steel shutters, fire-escapes and Bedford stone.

Building Materials.—J. Chas. Valadie, Madison, Fla., wants prices on building materials.

Building Materials.—Fulton County Commissioners, Atlanta, Ga., want prices on hollow metal window frames, bronze gates, doors, revolving door and ornamental plaster for courtrooms, etc.; interior marble work and cork tiling in corridors; also ice water circulating system.

Building Materials.—Weber Chimney Co., 209 State St., Chicago, Ill., wants prices on building materials; delivery at Port Arthur, Tex.

Building Materials.—R. E. Lee, Clemson Agricultural College, Clemson, S. C., wants catalogues and samples of building materials of interest to architects.

Building Materials.—State Hospital Commission, Dr. J. W. Babcock, chairman, Columbia, S. C., invites bids on terra-cotta piping, assorted sizes, cement, brick, lime, slate and tile roofing and sewer piping; said bids to be based on purchase of material in carload lots; to be delivered f. o. b. cars at State Park on Southern Railway, seven miles east of Columbia; station known as Dent; bidder to state at what time delivery could be made; bids to be filed with chairman.

Candy Machinery.—K. O. Knudson, Clifton, Tex., wants data and prices on machinery for manufacturing candy.

Canning Machinery.—Florida Land Syndicate, F. S. Gray, president, 911 W. Bay St., Jacksonville, Fla., wants prices on canning outfit, including boiler.

Canning Machinery.—K. O. Knudson, Clifton, Tex., wants addresses of manufacturers of machinery for canning fruit, vegetables, catsup and kroust.

Chains.—See "Machinery, etc."

Cold-storage Machinery.—American Exploration & Holding Co., El Paso, Tex., wants data and estimates on cold-storage machinery for large market.

Concrete Mixer.—Etowah Water & Light Co., W. H. Price, general manager, Etowah, Tenn., wants second-hand concrete mixer.

Concrete Wall Construction.—Ohio County Commissioners, Wheeling, W. Va., will receive bids until 10 A. M. August 14 for construction of two concrete walls, one on Caldwell's Run and other on G. C. & P.; for further information address County Commissioners or A. S. Bell, County Engineer, City Bank Bldg., Wheeling.

Concrete Construction.—See "Structural Steel."

Copper Tubing.—Navy Department, Bureau of Supplies and Accounts, Washington, D. C., will open bids August 15 for 400 feet flexible copper tubing, schedule 3818; delivery navy-yard, Norfolk, Va.; for copies apply to navy pay office nearest navy-yard.

Corn Mill.—J. D. Strickland, Stillson, Ga., wants prices and description of device for feeding and cleaning corn as it goes into mill; has 48-inch mill.

Cotton Machinery.—Exposition Cotton Mills, Atlanta, Ga., will close machinery contracts (10,000 spindles, preparatory machinery, looms, etc.) by August 15.

Cotton Machinery.—American Exploration & Holding Co., El Paso, Tex., is prepared to correspond relative to data and prices on cotton spinning and weaving machinery.

Crates.—H. N. Fitzgerald, Suffolk, Va., wants bakers' shipping baskets or crates.

Cross-arm Machinery.—Gulfport Crocoating Co., J. T. Jones, president, Gulfport, Miss., wants to correspond with makers of machinery for manufacturing cross-arms.

Crusher.—Etowah Water & Light Co., W. H. Price, general manager, Etowah, Tenn., wants second-hand stone crusher.

Can Fillers.—Garner-Blakely Company, John S. Garner, president, Bainbridge, Ga., wants prices on can fillers.

Dredge Bucket.—Eastern Railway Supply Co., 413 American Bldg., Baltimore, Md., wants prices on three-quarter-yard clamshell bucket.

Drill.—C. A. Divine, Bishopville, S. C., wants to correspond with manufacturers of drills drilling square holes.

Drums.—Kildust Company, Rome, Ga., wants wooden drums in three sizes; for 100, 200 and 300 pounds of sweeping compound, weighing about same or slightly heavier than flour; preferred veneered drum.

Electric Hoist.—See "Building Materials."

Electric-light Plant.—See "Water-works and Electric-light Plant."

Electric-light Plant.—Dr. W. R. Newton, Buckholts, Tex., wants prices on electric-light plant for \$10,000 sanitarium.

Electrical Machinery.—Williams & Shock, 223 N. Calvert St., Baltimore, Md., want 40 to 50-kilowatt generator unit, 125 volts, direct current, steam pressure 80 pounds.

Elevator.—James Wellman, Beaumont, Tex., will receive bids on hand-power elevator to cost \$3000 to \$4000.

Elevating Outfit.—Ocmulgee Guano Co., A. W. Waller, manager, Hawkinsville, Ga., will receive bids September 1 on elevating outfit for boat line.

Engineers.—Southern Assembly, James Cannon, president, Waynesville, N. C., wants names of consulting engineers relative to construction of earth or concrete dam or earth dam with concrete core; correspondence with engineers contiguous to Waynesville preferred.

Engine.—Morris-Johnson-Brown Manufacturing Co., Dubuque, Iowa, wants prices on (for immediate erection) 15x36-inch second-hand heavy-duty Corliss engine; also address company's representative, George Thomson, 625 Home Insurance Bldg., Chicago, Ill.

Fire Protection.—See "Sprinkler System."

Excavation.—See "Railway Construction" below.

Felt.—W. F. Maxey, 59 Lula St., Denton, Tex., wants prices on deadening felt.

Fertilizer Mixer.—Ocmulgee Guano Co., A. W. Waller, manager, Hawkinsville, Ga., will receive bids September 1 for dry-mixing outfit.

Filter Plant Supplies.—Baltimore (Md.) Board of Awards will receive bids at office of City Register, City Hall, until 11 A. M. August 9 for furnishing nozzles, deflectors and special castings for sprinkling filters at sewage disposal works on Back River, sanitary contract No. 68; specifications may be obtained on application at office of Sewerage Commission, Room 904 American Bldg.; certified check \$250; quantities, 1200 nozzles and deflectors and 1200 special castings; W. D. Platt, chairman pro tem. Sewerage Commission.

Fire Apparatus.—City of Florence, S. C., W. H. Malloy, City Clerk, receives bids until 6 P. M. August 10 for combination auto hose wagon complete. For information address W. H. Berry, chairman fire committee.

Fire Extinguishers.—P. A. Tofft, Mt. Ida, Ark., wants agency for hand fire extinguishers.

Gasoline Engine.—K. B. Harvey, Fort Myers, Fla., wants six-horse-power four-cycle stationary light-weight gasoline engine.

Gasoline Stoves, etc.—P. A. Tofft, Mt. Ida, Ark., wants agency for gasoline stoves, lights and heaters.

Glass Machinery.—K. O. Knudson, Clifton, Tex., wants addresses of makers of machinery for manufacturing tumblers, dishes, bottles, window glass, etc.

Glass Cards.—J. T. Moore, 614 E. Main St., Chattanooga, Tenn., wants prices on glass cards in large sheets that will hold printers' ink.

Gravel, etc.—Weber Chimney Co., 209 State St., Chicago, Ill., wants prices on a quantity of gravel and sand; delivery at Port Arthur, Tex.

Heating Plant.—Dr. W. R. Newton, Buckholts, Tex., wants prices on steam-heating plant for sanitarium.

Heating Plant.—Fulton County Commissioners, Atlanta, Ga., want prices on hot-water circulating system of heat.

Ice Plant.—See "Cold-storage Machinery."

Ice Machinery.—George W. Harrison, Emporia, Va., wants to correspond with manufacturers of ice and cold-storage machinery.

Ice Machinery.—Huckleberry Mineral Springs, 302 Milton Ave., Durham, N. C.,

wants to correspond with manufacturers of ice machinery.

Iron.—See "Machinery, etc."

Iron Bands.—J. F. Lambert, Audubon Bldg., New Orleans, La., wants prices on galvanized-iron bands in bundles; has buyer for large quantity.

Lights.—See "Gasoline Stoves, etc."

Locomotive.—Males Company, Box 559, Cincinnati, O., wants new or second-hand 35-ton standard-gauge (Shay or Climax preferred) geared locomotive; North Carolina delivery; give full description and price.

Looms.—See "Cotton Machinery."

Machine Shop Equipment.—Southern Motor Supply Co., 20 Strickland Bldg., Valdosta, Ga., wants to correspond with manufacturers of lathes and other machinery for garage and repair shop.

Machinery, etc.—C. G. Selzan and J. C. Pavlatos, 61 Uotara St., Piraeus, Greece, want data, prices, terms, etc., from manufacturers of oils of all kinds, "motor-car benzines," leather belting, cotton belting, pumping machinery, wire rope, autocars, typewriters, pig-iron and chains.

Metal Ceiling.—Board of Education, R. D. Hope, chairman, Sharon, S. C., wants prices on metal ceiling.

Metal Ceiling.—Bank of Camden County, St. Marys, Ga., wants prices on metal ceiling.

Metal Shingles.—Board of Education, R. D. Hope, chairman, Sharon, S. C., wants prices on metal shingles.

Metals.—Navy Department, Bureau of Supplies and Accounts, Washington, D. C., will open bids August 15 for 2800 pounds of rod bronze, schedule 3812; 3000 pounds of solder (half and half), schedule 3812; 3000 pounds of rolled sheet zinc, schedule 3818; delivery navy-yard, Norfolk, Va.; for copies apply to navy pay office nearest navy-yard.

Molding.—See "Woodworking Machinery."

Packages.—See "Drums."

Paper.—C. F. Austin, general manager Cuba Fruit Exchange, Havana, Cuba, wants addresses of manufacturers of fruit and vegetable wrapping paper; in vicinity of New York preferred.

Paving.—City Council, Longview, Tex., receives bids until 8 P. M. August 11 for furnishing labor and materials for about 17,000 square yards pavement; bids invited on both brick paving blocks and creosoted wood blocks; plans and specifications at office of G. D. Bodenheimer, Mayor, and of Aetna Engineering Bureau, consulting engineers, 17 N. La Salle St., Chicago, Ill., or may be obtained from engineer for \$2; certified check, 10 per cent. of bid.

Paving.—Chancery Clerk of Jones county, Laurel, Miss., will receive bids until noon August 7 for building around and upon Courthouse Square at Ellisville, Miss., and Laurel, according to plans and specifications on file in clerk's office at Ellisville, Miss.; bids to be made upon square yard; contractors to furnish all material; work to be done under supervision of Board of Supervisors; J. H. Crawford, clerk, Laurel, Miss.

Pipe Fittings, etc.—Navy Department, Bureau of Supplies and Accounts, Washington, D. C., will open bids August 15 for miscellaneous lot of iron pipe fittings, schedule 3817; delivery navy-yard, Norfolk, Va.; for copies apply to navy pay office nearest navy-yard.

Piping.—Eutsler Bros., Grottoes, Va., want prices on 3000 feet of new or second-hand pipe.

Pumping Machinery.—Bids received by City Council, Muskogee, Okla., until August 29 at 10 A. M., and opened immediately thereafter, for furnishing and erecting pumping machinery; 6,000,000 low lift centrifugal, 6,000,000 high lift centrifugal and 3,000 high lift centrifugal pumps; bids received alternatively for direct connection with electric motors and steam turbines; certified check for 10 per cent. amount of proposal shall accompany each bid; usual rights reserved; specifications can be procured at office of City Engineer or at office of consulting engineer, Alexander Potter, 114 Liberty St., New York, on or after August 10; file all bids with Chas. Wheeler, Jr., City Clerk; T. P. Clonts, City Engineer; Alexander Potter, consulting engineer.

Pneumatic Tools.—Westminster Marble & Granite Co., Westminster, S. C., wants prices on two to five pneumatic tool outfit for marble and granite plant.

Piping.—Garner-Blakely Company, John S. Garner, president, Bainbridge, Ga., wants prices on copper piping.

Printing (Textile) Machinery.—American Exploration & Holding Co., El Paso, Tex., is prepared to correspond rela-

tive to data and prices on calico printing machinery.

Pulleys.—Newton Oil & Fertilizer Co., Newton, N. C., wants prices on second-hand pulleys; 76 inches diameter, 12-inch face, 2 3-16 bore and 60 inches diameter, 14-inch face, 3 7-16 bore.

Pumping Machinery.—See "Machinery, etc."

Rails.—See "Railway Construction" above.

Road Construction.—Bids received by undersigned and Supervisors of Wise county at clerk's office, Wise, Va., until 11 A. M. August 23 for construction of about 272,000 square yards of macadam laid on roadbed already graded, in groups as follows: Wise group, 49,869 square yards; Norton group, 33,441 square yards; Coeburn group, 69,523 square yards; Big Stone Gap group, 88,590 square yards; Appalachia group, 30,508 square yards; quarry rights furnished to contractor free of cost at most convenient points; bids on each separate group must be accompanied with certified check for \$500, but certified check for \$1500 will entitle bidder to bid on three or more groups; usual rights reserved; specifications and "Instructions to bidders" may be had on application to County Engineer, Norton, Va.; P. St. J. Wilson, State Highway Commissioner, Richmond, Va.

Roofing.—W. F. Maxey, 59 Lula St., Denton, Tex., wants prices on rubberoid deck roofing or vulcanite canvas-back roofing.

Revetment.—Bids for revetment of river bank of city property from point at or near intersection of St. Cyr Ave. projected with Mississippi River northwardly distance of about 9000 feet, under letting No. 10,311, will be received by city of St. Louis, Mo., at Room 300, New City Hall, until 12 M. August 15. Plans, specifications, form of bid and other information can be had at office of president of the Board of Public Improvements and Water Commissioner.

Railway Construction.—Tyler Traction Co., Slatersville, W. Va., receives bids until noon August 8 for constructing 11 miles of railway; work consists principally of about 100,000 cubic yards excavation, 12,000 cubic yards borrow, 11,000 cubic yards tunnel excavation, 2000 cubic yards bridge and culvert masonry, and tracklaying; specifications and profile in office of chief engineer, R. C. Venable, at Slatersville.

Rubber-tired Wheels.—James H. Crowe, Cleveland, Tenn., wants to correspond with manufacturers of rubber-tired wheels, such as used on baby carriages.

Safe, etc.—Merchants and Planter's Bank, Bishopville, S. C., wants prices on safe, vault and other bank fixtures.

Safe, etc.—W. H. Gregory, Central Life Insurance Co., Louisville, Ky., will want prices on safe, vault and bank fixtures.

Sandstone.—Pearson Construction Co., Dothan, Ala., wants sandstone for United States building construction at Lagrange, Ga.

Sand.—See "Gravel, etc."

Scales.—J. S. Poythress, Henderson, N. C., wants prices on extension wagon scales for weighing coal; beam inside office.

Seating.—Church of Christ, Harms, Tenn., will want prices on pews and chairs for 36x50-foot edifice; W. Smith, Fayetteville, Tenn., may be addressed.

Sewers.—Bids received by Board of Bond Trustees, South Jacksonville, Fla., until 4 P. M. August 24 for construction of sanitary sewerage system; about 3 1/2 miles of pipe, 8 to 18 inches, manholes, flush tanks, etc. Specifications may be obtained from and plans and profiles seen at office of consulting engineer; certified check for 5 per cent. of bid; usual rights reserved; W. W. Swaim, chairman; William W. Lyon, consulting engineer, 305 Duval Bldg., Jacksonville, Fla.

Sewers.—City of Lake Charles, La., will receive bids until September 11 for constructing 32 miles of clay pipe sewers 24 to 6 inches, with one pumping station and centrifugal pumps driven by electric motor or gasoline engine; also four reinforced concrete reduction tanks; plans on file with A. A. Wentz, secretary; specifications may be had by addressing W. G. Kirkpatrick, engineer, Jackson, Miss.

Sewers.—Sealed bids received until 4 P. M. August 9 by M. W. Gresson, secretary, Prescott, Ark., for material for sanitary sewer system; will receive bids on labor one week later; plans and specifications may be obtained from James W. Beebe, engineer, Poteau, Okla.

Silk Mill.—American Exploration & Holding Co., El Paso, Tex., is prepared to correspond relative to data and prices on silk-mill equipment.

Sprinkler System.—John McGrath & Sons, Brookhaven, Miss., want to correspond

with manufacturers of automatic fire sprinkler device for department store.

Steel.—Navy Department, Bureau of Supplies and Accounts, Washington, D. C., will open bids August 15 for 38,700 pounds boiler-plate steel, schedule 3809; delivery navy-yard, Washington, D. C.; for copies apply to navy pay office nearest navy-yard.

Steel Girders, etc.—Sealed proposals received at office of General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., until 10.30 A. M. August 28, and then opened, for furnishing structural steel-plate girders, manganese, steel castings, locomotive and car springs and piles; blanks and general information relating to this circular (642) may be obtained from this office or offices of assistant purchasing agents at 24 State St., New York; 614 Whitney-Central Bldg., New Orleans, and 1086 Point St., San Francisco; also from U. S. Engineer offices in Seattle, Los Angeles, Baltimore, Philadelphia, Pittsburg, Boston, Buffalo, Cleveland, Cincinnati, Chicago, St. Louis, Detroit, Milwaukee, St. Paul, Chattanooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City; Chamber of Commerce, Quincy, and Chamber of Commerce and Board of Trade, Tacoma. F. C. Boggs, Major, Corps of Engineers, U. S. A., General Purchasing officer.

Structural Steel.—American Exploration & Holding Co., El Paso, Tex., wants designs and estimates on structural steel for constructing market; to include galvanized steel and interchangeable stalls; prospectus and ground plan ready.

Tanks.—Garner-Blakely Company, John S. Garner, president, Bainbridge, Ga., wants prices on copper and steel tanks.

Telephone Construction.—Seaside, Shal-lotte & Wilmington Telephone Co., Walter Leonard, secretary, Supply, N. C., will receive bids until August 25 to construct 45 miles of telephone line.

Trucks.—Garner-Blakely Company, John

S. Garner, president, Bainbridge, Ga., wants prices on platform trucks.

Typewriters.—See "Machinery, etc."

Waterproof Paper.—W. F. Maxey, 59 Lula St., Denton, Tex., wants prices on waterproof paper.

Water System.—See "Building Materials."

Water-works and Electric-light Plant.—Bids received by Board of Bond Trustees, South Jacksonville, Fla., until 4 P. M. August 24 for furnishing about five miles 8, 6 and 4-inch cast-iron pipe and specials; hydrants and valves; drilling 12-inch well; furnishing tower and tank; two boilers; feed-water heater; pumps; generator, exciter and switchboard, etc.; simple valve engine; laying cast-iron pipe; constructing reservoir; tower foundations; installing machinery; furnishing and installing electric line work, and constructing power-house; specifications may be obtained from and plans seen at office of consulting engineer; certified check for 5 per cent. of total bid; usual rights reserved; W. W. Swain, chairman; William Lyon, consulting engineer, 305 Duval Bldg., Jacksonville, Fla.

Well Drilling.—Commissioners of Clarks-dale, Miss., will receive bids September 5 for drilling and equipment of six-inch artesian well at power-house; plans and specifications on file at office of M. G. Bobo, engineer; usual rights reserved.

Wire Rope.—See "Machinery, etc."

Woodworking Machinery.—Tanpa Brush & Specialty Co., E. P. Schlect, president, Tampa, Fla., will receive bids September 1 on woodworking machinery, including band saws, planer, sandpapering machine, edger, etc.

Woodworking Machinery, etc.—Independent Casket Co., E. L. Bortner, president, 800 Hillen St., Baltimore, Md., wants prices on saws, planers, stickers, molding, etc.

Woodworking Machinery.—See "Cross-arm Machinery."

natural marble, and is said to take a mirror-like surface direct from the molds. Other advantages claimed for it are that it is somewhat elastic, that it can be sawed and nailed like lumber, can be made as soft as hardwood or harder than marble for flooring purposes.

Vanadium in Aeroplane Machinery.

Three shafts recently made by the Roberts Motor Co., Sandusky, O., from chrome vanadium steel furnished by the Bourne-Fuller Company, Cleveland, for 50 horse-power Roberts motors for aeroplanes showed remarkable strength and lightness when tested. The rough forgings weighed 82 pounds each and were finished and bored out to 18 pounds each for use on three Hadley & Blood aeroplanes of the Farnam type. The shafts measured two and one-half inches outside diameter, and were bored to two and one-quarter inches inside diameter through the entire length. In the testing they showed a factor of safety 38 per cent. above the necessary strength for 50 horse-power, with cylinder explosive pressures of 1100 pounds per square inch.

Recent Contracts for Ambursen Dams

The Ambursen type of dam has been adopted by the War Department for the dam to be built by Government working forces across the Mississippi River between St. Paul and Minneapolis. The contract with the Ambursen Company takes the form of an adequate royalty. The adoption of this type by the United States engineers is a strong testimonial of the efficiency and value of this type of dam construction. The Ambursen Hydraulic Construction Co., 88 Pearl St., Boston, is building two dams for the Porto Rico Department of Irrigation. One near Guayabal is 115 feet high and 1200 feet long, and the other, on the Coama River, is 62 feet high and 600 feet long. A third heavy piece of construction work in Porto Rico is the 125-foot dam for the Porto Rico Railways Co., near San Juan. Plans are now in preparation for still another dam on that island. A dam 555 feet long, including the concrete power-house, and 28 feet high will be built by the Ambursen Company for the Auglaize Construction Co., Defiance, O., on the Auglaize River Development No. 1, near Defiance.

Increase in Youngstown Sheet & Tube Co.'s Plant.

An increase in capital stock of the Youngstown Sheet & Tube Co., Youngstown, O., to \$15,000,000 has been made for the purpose of meeting the increased business and to add a new open-hearth plant of eight mills, with a blooming mill and a bar mill. As an indication of the public-spiritedness, as well as the business acumen and attendant prosperous condition of this company, a "wages dividend" of 5 per cent. will, according to a press dispatch, be distributed by the company on August 15, amounting to \$22,000. The factories and complete plant of this company occupy over 300 acres, and four to five full trainloads of products are turned out per day. It has the advantage, for economy and insuring the best output, of owning and operating its mines, blast furnaces, puddling furnaces, steel plant and finishing mills, and is in every way a modern plant. Among the products are the "Genuine Iron Sheets," made as they were 50 years ago by puddling pure pig-iron, and noted for its non-rusting and other qualities. Buckeye fence, star-brand iron pipe, Y-brand steel pipe, New Process galvanized sheets and double refined, puddled, iron roofing are among its products. District sales offices are located in New York city, Dallas (Tex.), San Francisco, Denver, Chicago, Philadelphia, Boston and Pittsburg.

H. W. Johns-Manville Company's New Building.

The entire new 12-story office building now being erected at 41st St. and Madison Ave., New York city, will be occupied about May 1, 1912, by the owners, H. W. Johns-Manville Company, now at 100 William St. This will be known as the "Johns-Manville Bldg." It is being built to furnish the necessary offices to take care of the business, which has completely outgrown the present quarters. The building will be distinctly attractive, the style of architecture being different from that heretofore employed in office buildings. It will be early Italian-Gothic design, and will be so carried out that the four sides will be attractive. It will be of fireproof steel construction, with the walls of three lower stories of limestone and upper stories of gray-brown Roman brick and terra-cotta, with light-colored marbles worked in panels. The cornice will extend entirely around the building and will be of copper treated with silver, gold and colors. A considerable part

of the equipment of the building will be furnished from the products of the company, including the J-M asbestos roofing, J-M asbestos plaster, J-M linolite system of lighting, J-M conduit for wiring, J-M sanitary seats, electrical accessories, waterproofing, Keystone hair insulator, J-M asbestos pipe coverings, etc.

J. W. White Appointed Traffic Manager of the International Agricultural Corporation.

After 23 years' continuous service in various capacities with the Seaboard Air Line Railroad Co., J. W. White has resigned his position in charge of the industrial department to accept that of traffic manager of the International Agricultural Corporation of New York, with his headquarters at Atlanta. The first 12 years of his work with the Seaboard Air Line was spent in the subordinate capacities of the various clerkships up to chief clerk, cashier and general agent. His service from 1900 to 1902 included that of traveling freight agent at Raleigh. Since that date he has been in charge of the industrial department of the Seaboard Air Line. The International Agricultural Corporation has controlling interests in potash mines in Germany, phosphate mines in Florida and Tennessee, and in a great many fertilizer plants at various points throughout the South, and will present a wide field for his energies. J. A. Pride, formerly assistant general freight agent, succeeds Mr. White in charge of the industrial department of the Seaboard. Mr. White writes that "in retiring from the Seaboard Air Line I desire to thank the Manufacturers Record for the assistance given me in my work. The South's development is assured, the Manufacturers Record has been a powerful factor in the progress attained, and its influence will continue until the final chapter shall have been written." Mr. White's progress is typical of the opportunities for advancement in the South when persistence, energy and attention to the duty at hand are applied.

TRADE LITERATURE.

Enamelled Brick for Exteriors.

A booklet, 11x14 inches, issued by the American Enamelled Brick & Tile Co., Metropolitan Bldg., New York, contains numerous illustrations of exterior constructions of important buildings in which its enamelled brick, tile and terra-cotta have been used. Several of these illustrations are full paged. They show the progress and growth of the use and adaptability of these products. The Sternberg Bldg., Houston, Tex., in which they were used, is included in the illustrations. The demand for its products has caused an increase in output until it is now over 6,000,000 brick per annum.

Northrop Loom at Cotton Centennial.

The Fall River Cotton Centennial Exposition commemorated the one hundredth anniversary of cotton manufacturing in Fall River, and called attention to the fact that 100 years practically represents the development of cotton manufacturing in the United States. Among the prominent exhibits was that of the American Linen Co. of Fall River, where were seen together a hand loom of greater age than the city of Fall River and a Northrop automatic loom, showing by comparison a century of progress in weaving. These two looms are illustrated in Cotton Chats, No. 104, issued by the Draper Company, Hopedale, Mass., manufacturer of the Northrop looms.

Steel Derricks and Drilling Rigs.

A pamphlet treating of steel derricks and drilling rigs as manufactured by the Carnegie Steel Co., Pittsburg, for oil, gas, salt and other wells, mineral exploration work, etc., has just been issued by the company. These derricks and drilling rigs have been designed along well-approved lines to conform to the requirements and preferences of the drillers. Three types are illustrated: The Woodworth Standard, the Woodworth Oklahoma and the Yorke Standard. These are all described in the pamphlet, as is also a slight modification known as the Woodworth California. This pamphlet is practically a short treatise on drilling, and it sets forth up-to-date methods in drilling operations.

OBITUARY.

James C. Brooks.

Announcement is made with deep sorrow of the death of their president, Maj. James C. Brooks, by the Southwark Foundry & Machine Co. of Philadelphia. He died suddenly on July 18 of heart disease at the age of 67. He held the rank of major during the Civil War, and since then has been largely identified with the iron industry.

INDUSTRIAL NEWS OF INTEREST

Built With Kosmos Portland Cement.

Among the recent orders for Kosmos Portland cement is that for use in the construction of the following buildings in Louisville, Ky.: The Weissinger-Caulbert Annex, the new warehouse of the Union Warehouse Co., the new plant of the Kentucky Electric Co. and the big office building of the Inter-Southern Life Insurance Co. This cement is manufactured by the Kosmos Portland Cement Co., Louisville, Ky.

"Chicago Pneumatic" Tools.

An important change has been made in the trade designation of the air compressors manufactured by the Chicago Pneumatic Tool Co., Fisher Bldg., Chicago, which have heretofore been known as the Franklin compressors, from the fact that the compressor works were located at Franklin, Pa. Since its pneumatic tools, electric drills, rock drills and other manufactures are invariably identified with the name of the company, it has been determined to hereafter use the trade name "Chicago Pneumatic" as applying also to its air-compressor product.

Western Electric Equipment at U. S. Military Academy.

A complete central-battery telephone exchange equipment for installation at the United States Military Academy at West Point has been purchased by the War Department from the Western Electric Co., 463 West St., New York. This equipment consists of a multiple switchboard with a capacity of 3000 common battery lines, complete power plant and 25,000 feet of lead-covered underground cable, together with the necessary telephone sets, protectors, outside wires, and the installation and connecting up of the underground cable. The switchboard will be equipped for long-distance connections through the New York Telephone Co.'s offices at Newburg.

"Bargain Day" Sale of 500 Troy Dump Boxes.

In order to demonstrate quickly to the largest number of users of dump wagons the saving and other advantageous features of the Troy dump boxes, the Troy Wagon Works Co. of Troy, O., has set aside 500 for special sale at reduced prices. The purchase under this special sale will be limited to one box to each customer, and no sale at these rates will be accepted for later than September 1, 1911. These boxes are furnished to fit any size gear and wagon. They are built to withstand hard use, and the dumping doors are of sheet steel, thoroughly ribbed. They

are so made that the doors overlap when closed and will not permit the driest sand to leak out. It is fully illustrated and described in bulletin M, which will be sent on request.

Pelican Company's Meridian Branch.

As a result of the large amount of sheet-metal and roofing work in Meridian, Miss., and adjoining territory, the Pelican Metal & Roofing Co., 4300 Washington Ave., New Orleans, has established a branch at 2303 4th St., Meridian. This gives the company adequate equipment to handle the increasing business in Mississippi. Among the contracts at present in hand is that for the metal ceilings and metal shingles for the Meridian State Fair Bldg., which amounts to several thousand squares of sheet-metal work.

Vanadium in Knife Blades.

In order to insure the use of the best materials obtainable in its cutlery blades, the Canton Cutlery Co., Canton, O., carries on extensive experiments with various steels and alloys. It has experimented with vanadium steel, and is using it in the pocket knives in patterns similar to those with Sheffield steel blades as manufactured by the company, the vanadium knives commanding a higher price than the Sheffield steel, showing the value of vanadium in steel work.

Western Electric "Blue Bell" Battery

A new moisture-proof dry battery cell, designed especially for use in mine, railway and general telephone and other service where the batteries are subjected to moisture, has been recently placed on the market by the Western Electric Co., 463 West St., New York. It differs from the standard "Blue Bell" cell only in that the cardboard carton has been treated with a special impregnating compound which effectually prevents moisture from reaching the cell proper. This is done to give assurance that the life of the batteries used in damp places will be as great as that of the batteries in ordinary magneto service.

Manufacture of Marble Lumber.

Exclusive manufacturing rights, territory and formulas for making "marble lumber" are offered through our Classified Opportunities Department by the Art Stone Co., Waynesboro, Pa. This material is described as a fireproof product for wainscoting, door and window trim, base moldings, table tops, counters, shelving, fireplace mantels, etc. It is manufactured in inexpensive molds without the use of machinery. It is claimed to have the coloring, veining and appearance of

AMERICAN IRON AND STEEL.

Association's Annual Statistical Report for 1910.

The annual statistical report of the American Iron and Steel Association for 1910, by James M. Swank, general manager, 261 S. 4th street, Philadelphia, Pa., is now ready for distribution. The statistics of the production of iron and steel in the United States for that year and preceding years are full and complete. Tables are given which show in detail our imports and exports of iron and steel, tinplates, iron ore, coal, etc. Full details are given of the shipments of iron ore from the Lake Superior and other mines, the imports of Cuban and other iron ore, the prices of Lake Superior iron ore, the shipments and prices of Connellsville coke, the imports and exports of coal and coke, the tonnage of steel vessels built in 1909 and 1910, immigration in 1910 and previous years, etc. The price tables, which have been made more comprehensive than ever, will especially commend themselves to all who are connected with the iron trade. The usual tables showing the production of pig-iron by grades are given in full. The tables relating to our production of steel give the annual growth in recent years of all kinds of steel, including the growing use of alloys and the use of electricity in the manufacture of steel. The statistics of rail production in 1910 are given in usual detail. They show the great advance that has recently been made in the use of open-hearth steel rails; also the increasing use of alloyed and electric steel rails. Tables showing the production of structural steel, plates and sheets, wire rods, tinplates and terneplates, cut nails, wire nails, etc., for late years are given; also information concerning railroad mileage in the United States.

Canadian coal, iron ore and pig-iron statistics are complete. Detailed statistics of the coal, iron ore and iron and steel industries of Great Britain, Germany, France, Belgium, Spain, Italy, Austria, Hungary, Sweden, Russia, Japan, China, India, Australasia, etc., in 1909 or 1910 are also given; also the railway mileage of the world in 1909. Complete statistics of the world's production of iron ore, coal, pig-iron and steel are valuable features of the report. The foreign statistics are exceptionally full and interesting. The neurological record is continued, and is very long.

A table of contents is inclosed. The report contains 120 pages, and is well printed on good paper. It will be sent by mail in a strong envelope to all who may order it, thus insuring its receipt in perfect condition. Price, \$5, or 21 shillings, per copy.

FINANCIAL NEWS

The MANUFACTURERS RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Review of the Baltimore Market.

Office MANUFACTURERS RECORD,

Baltimore, Md., August 2.

Trading in the Baltimore market for the last several days has been almost wholly confined to Houston Oil shares, on account of the improved feeling over the new financial plan. During the week the preferred stock advanced 15 points, from which there was a slight reaction. The rise was from 64 to 79, and the common stock also experienced an advance, going from 8½ to 9½. Maryland Trust advanced in sympathy.

Other operations in the market showed sales thus: United Railways common, 19½ to 19¼; do. incomes, 64½ to 63½; do. funding 5s, 88½ to 88¾; United 4s, 86½ to 86¼; do. 5s, notes, 90½ to

90½; Consolidated Gas, Electric Light & Power common, 92½ to 92; do. preferred, 99¼ to 98¾; do. 4½s, 87¼ to 87½; do. notes, 100; Consolidated Gas 5s, 109; do. 4½s, 97½; Seaboard Air Line preferred, 45¼; Seaboard Company common, 27 to 26½; do. first preferred, 87; Seaboard 4s, stamped, 87½ to 87¼; do. adjustment 5s, 81¼ to 78¾; Mt. Vernon-Woodberry Cotton Duck 5s, 78 to 79¾; G. B. S. Brewing 4s, 44½ to 45.

Bank stocks sold as follows: Mechanics', 28½; Farmers and Merchants', 53¼; Old Town, 13; Bank of Baltimore, 170.

Maryland Casualty sold from 91 to 91½; Fidelity & Deposit, 151; Maryland Trust common, 90½ to 97; Mercantile Trust, 146½; Continental Trust, 217½; American Bonding, 76½.

Other securities were traded in thus: Baltimore City 3½s, 1980, 87½; do. do. 1928, 93; do. do. 1930, 93; do. do. 1940, 92; do. 5s, 1916, 104; do. 4s, 1958, 101; Norfolk & Portsmouth Traction 5s, 88¾ to 90; Pennsylvania Water & Power 5s, 88½; do. common stock, 56; Virginia Centuries' 88¼; Atlantic Coast Line convertible debenture 4s, 100½ to 100¼; Houston Oil common, 8½ to 9½; do. preferred, 64 to 79, reacting to 77; Atlanta & Birmingham 4s, 87; Baltimore City Passenger 5s, 100¼; Virginia Railway & Power common, 39½; Anacostia & Potomac 5s, 101¼; do. guaranteed, 102½; Columbia (S. C.) Railway, Gas & Electric 5s, 94; Norfolk City 5s, 1922, 102½; Augusta & Aiken preferred, 75; Baltimore Electric preferred, 40½ to 41; do. 5s, stamped, 96 to 95½; Norfolk & Carolina 2d, 111½; Norfolk Railway & Light 5s, 100; Atlantic Coast Line of Connecticut, 250½; Charleston Consolidated Electric 5s, 97½; Macon, Dublin & Savannah 5s, 98; Newport News & Old Point 5s, 94; Carolina Central 4s, 93; Western Maryland 4s, 88½; Consolidation Coal, 102 to 103; Chicago Railways 5s, 99¾; Georgia & Alabama consolidated 5s, 105½; Maryland Electric 5s, 98¾; Coal & Iron Railway 5s, 102; Baltimore Brick common, 2½; do. preferred, 28½; Fairmont & Clarksburg Traction 5s, 100½ to 100¼; Norfolk & Atlantic Terminal 5s, 94½; Fairmont Coal 5s, 97½; Jamison Coal & Coke, George's Creek 5s, 93; Washington-Vandemere 4½s, 96; Macon Railway & Light 5s, 97½; Roland Park Electric & Water 5s, 101.

SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended August 2, 1911.

Railroad Stocks.	Par.	Bid.	Asked.
Atlantic Coast of Conn.	100	247½	251
Fairmont & Clarksburg Trac. Pfd.	100	82½	83
Georgia Sou. & Fla. 1st Pfd.	100	91	91
Georgia Sou. & Fla. 2d Pfd.	100	75	75
Maryland & Pennsylvania.	100	19	20½
Seaboard Co. Common.	100	26	27
Seaboard Co. 2d Pfd.	100	59	59½
Southern Railway (V. T.)	100	21	21
United Rys. & Elec. Co.	50	194	194½
Virginia Ry. & P. Common.	100	29½	30½
Virginia Ry. & P. Pfd.	100	78	80

Bank Stocks.	Par.	Bid.	Asked.
Bank of Baltimore.	100	171	171
Citizens'.	100	163	165½
Exchange.	100	53½	54
First National.	100	148½	148½
German.	100	105	105
Merchants'.	100	180	185
National City.	100	111	111

Trust, Fidelity and Casualty Stocks.	Par.	Bid.	Asked.
American Bonding.	25	76	78
Continental Trust.	100	216	218
Fidelity & Deposit.	50	151	152
Farmers & Merchants'.	100	96	98
Maryland Trust Pfd.	100	115	117
Maryland Casualty.	25	91½	91½
Mercantile Trust & Deposit.	50	146	146
Union Trust.	50	69½	69½
U. S. Fidelity & Guaranty.	100	167	175

Miscellaneous Stocks.	Par.	Bid.	Asked.
Ala. Con. Coal & Iron.	100	40	40
Baltimore Brick.	100	2	2½
Con. Gas, Elec. Lt. & P. Com.	100	91½	92½
Con. Gas, Elec. Lt. & P. Pfd.	100	98½	98½
Consolidation Coal.	100	102½	103
G. B. S. Brewing Co.	100	9	2½
Georges Creek Coal.	100	9	9

Railroad Bonds.	Par.	Bid.	Asked.
Atlantic Coast 1st 4s.	100	94½	95½
Atlantic Coast Conv. Deben. 4s.	100	100½	100½
At. Coast (Conn.) 4s, Cts. 5-20s.	100	92½	93½
Carolina Central 4s.	100	95½	96
Col. & Green, 1st 6s.	100	106½	106½
Georgia & Alabama 5s.	100	106½	106
Georgia, Car. & North, 1st 5s.	100	104½	105½
Georgia Southern & Florida 1st 5s.	100	107	107
Maryland & Pennsylvania 4s.	100	87	90
Fidmott & Cumberland 1st 5s.	100	99½	99½
Potomac Valley 1st 5s.	100	107½	107½
Savannah, Fla. & West. 5s.	100	109½	109½
Savannah, Fla. & West. 6s.	100	125	127
Seaboard 4s, stamped.	100	87½	87½
Seaboard Adjustment 5s.	100	78½	79
Seaboard Ref. 4s.	100	81	81½
Virginia Midland 3d 6s.	100	105	106
Virginia Midland 4th 5s.	100	104½	104½
Virginia Midland 5th 5s.	100	106½	106½
Washington-Vandemere 4½s.	100	96½	96½
Western Maryland 4s.	100	88½	88½

Street Railway Bonds.	Par.	Bid.	Asked.
Anacostia & Potomac 5s.	100	101½	101½
Augusta Railway & Electric 5s.	100	101	101

Baltimore City Passenger 5s.	100½	100½
Baltimore City Passenger 4½s.	97½	97½
Baltimore, Sp. Pt. & C. 4½s.	97	97
Baltimore Traction (N. B.) 5s.	110	110
Charleston City Railway 5s.	103	103
Charleston Con. Electric 5s.	99	99
Citizens' Ry. & Light of N. N. 5s.	75	75
City & Suburban 5s (Wash.) 5s.	103	105½
Fairmont & Clarksburg Trac. 5s.	100	100½
Lexington Railway 1st 5s.	94	94
Macon Railway & Light 5s.	100	100
Maryland Electric Railways 5s.	98½	99
Memphis Street Railway 5s.	98½	98½
Newport News & Old Point 5s.	90	94½
Norfolk & Portsmouth Trac. 5s.	89½	90
Norfolk Railway & Light 5s.	105½	99½
Norfolk Street Railway 5s.	105½	107½
United Railways 1st 4s.	86½	86½
United Railways Income 4s.	63½	64
United Railways Funding 5s.	88½	88½
United Railways 5s, Notes.	99½	99½
Virginia Railway & P. 5s.	97½	97½

Miscellaneous Bonds.		
Baltimore Electric 5s, Stp.	95½	95½
Consolidated Gas 5s.		109
Consolidated Gas 4½s.	97	98½
Con. Gas, Elec. Lt. & P. 4½s.	87	87½
Fairmont Coal 1st 5s.	97	97½
G. B. S. Brewing 1st 4s.	44½	45
G. B. S. Brewing Income 5s.	5	
Mt. Vernon-Woodby's Cot. Duck 5s.		79½
United Elec. Lt. & P. 4½s.	92½	96

SOUTHERN COTTON-MILL STOCKS.

Quotations Furnished by William S. Glenn, Broker, Spartanburg, S. C., for Week Ending July 31.

	Bid.	Asked.
Abbeville Cotton Mills (S. C.)	75	75
Aiken Mfg. Co. (S. C.)	80	80
American Spinning Co. (S. C.)	169	169
Anderson Cotton Mills (S. C.)	48	48
Anderson Cot. Mills (S. C.) Pfd.	100	100
Arcadia Mills (S. C.)	98	98
Arkwright Cotton Mills (S. C.)	99	100
Augusta Factory (Ga.)	40	40
Avondale Mills (Ala.)	116	116
Belton Mills (S. C.)	130	133
Brandon Mills (S. C.)	98	103
Brogan Mills (S. C.)	90	90
Cannon Mfg. Co. (N. C.)	135	135
Cabarrus Cotton Mills (N. C.)	130	135
Chadwick Mfg. Co. (N. C.) Pfd.	100	100
Chiquola Mfg. Co. (S. C.)	170	170
Clifton Mfg. Co. (S. C.) Pfd.	97	97
Clinton Cotton Mills (S. C.)	129	129
Columbia Mfg. Co. (Ga.)	93	98
Courtney Mfg. Co. (S. C.)	100	100
Dallas Mfg. Co. (Ala.)	90	90
Darlington Mfg. Co. (S. C.)	80	80
D. E. Converse Co. (S. C.)	90	90
Dryden Mills (S. C.)	95	109
Eagle & Phenix Mills (Ga.)	117	117
Easley Cotton Mills (S. C.)	162	175
Enoree Mfg. Co. (S. C.)	50	65
Enoree Mfg. Co. (S. C.) Pfd.	96	100
Enterprise Mfg. Co. (Ga.)	65	75
Expositio Cotton Mills (Ga.)	200	200
Gaffney Mfg. Co. (S. C.)	60	65
Gainesville Cotton Mills (Ga.)	72	80
Glennwood Cotton Mills (S. C.)	130	159
Gluck Mills (S. C.)	99	99
Granby Cot. Mills (S. C.) 1st Pfd.	35	45
Graniteville Mfg. Co. (S. C.)	140	145
Greenwood Cotton Mills (S. C.)	57	60
Grendel Mills (S. C.)	90	100
Hartsville Cotton Mill (S. C.)	160	175
Henrietta Mfg. Co. (S. C.)	160	175
Inman Mills (S. C.)	100	105
King Mfg. Co. J. P. (Ga.)	80	85
Lancaster Cotton Mills (S. C.)	130	130
Lancaster Cot. Mills (S. C.) Pfd.	97	100
Langley Mfg. Co. (S. C.)	104	112
Laurens Mills (S. C.)	127	135
Limestone Mills (S. C.)	155	160
Lockhart Mills (S. C.)	65	65
Lockhart Mills (S. C.) Pfd.	90	100
Loray Cotton Mills (N. C.) Pfd.	85	95
Mariboro Cotton Mills (S. C.)	102	102
Mills Mfg. Co. (S. C.)	102	102
Molokoh Mfg. Co. (S. C.)	95	105
Monaghan Mills (S. C.)	100	100
Monarch Cotton Mills (S. C.)	105	105
Newberry Cotton Mills (S. C.)	125	130
Ninety-Six Cotton Mills (S. C.)	130	150
Norris Cotton Mills (S. C.)	121	130
Olympia Cotton Mills (S. C.)	90	90
Orrr Cotton Mills (S. C.)	92	92
Pacolet Mfg. Co. (S. C.)	90	90
Pacolet Mfg. Co. (S. C.) Pfd.	95	100
Parker Common.	50	50
Parker Pfd.	85	85
Pelzer Mfg. Co. (S. C.)	163	163
Piedmont Mfg. Co. (S. C.)	175	177
Poe Mfg. Co. F. W. (S. C.)	110	115
Saxon Mills (S. C.)	130	130
Sibley Mfg. Co. (Ga.)	65	68
Spartan Mills (S. C.)	130	130
Trion Mfg. Co. (Ga.)	130	130
Tuckahoe Cotton Mills (S. C.)	310	350
Union-Buffalo (S. C.) 1st Pfd.	75	75
Union-Buffalo (S. C.) 2d Pfd.	16	16
Victor Mfg. Co. (S. C.)	110	115
Warren Mfg. Co. (S. C.)	90	95
Warren Mfg. Co. (S. C.) Pfd.	100	105
Washington Mills (Va.)	28	28
Washington Mills (Va.) Pfd.	106	110
Whitney Mfg. Co. (S. C.)	119	119
Windsor Mills (N. C.)	135	135
Woodruff Cotton Mills (S. C.)	110	115
Woodside Cotton Mills (S. C.)	95	100
Watts Mills (S. C.)	80	90
Williamston Mills (S. C.)	120	125

FINANCIAL CORPORATIONS.

Ala., Anniston.—The Land Title Guaranty Co. is reported to have filed articles of incorporation; capital \$15,000; incorporators, Rutherford Lapsley, Ellen Lapsley and J. J. Arnold.

Ark., Horatio.—Reported organized: Farmers and Merchants' Bank and Trust Co., capital \$50,000; John Henderson, formerly of De-Queen, cashier.

Ark., Tuckerman.—An official letter confirms report that the National Bank of Tuckerman has made application for a charter. E. V. Holt and others interested.

Ark., Lewisville.—Official: The People's

Bank & Loan Co. incorporated; authorized capital \$50,000, with \$30,000 paid up. Directors: W. D. Stewart, president; G. W. Dohson, vice-president, and N. D. Harrell, secretary, treasurer and cashier; W. B. Nash, T. P. LeMay, C. C. Burton and G. C. Boyette. Business is to begin September 1.

Ga., Alston.—A letter to the Manufacturers Record confirms report that a new bank is being organized.

Ga., Calvary.—A new bank is reported being organized by L. O. and E. A. Maxwell. Ga., Columbus.—The Columbus Agency has applied for incorporation, capital \$50,000 to \$250,000, to conduct an insurance agency business; office at Columbus; incorporators, J. L. Jesup, W. P. Wheeler, C. D. McClure, J. E. Madre, Wm. H. Bone, Sr., and J. O. Collier of Bibb county, of which Macon is the county-seat; J. E. McDonald of Houston county, of which Perry is the county-seat, and J. M. Morgan and G. H. Mason of Muscogee county, of which Columbus is the county-seat.

Ga., Farmeraville.—Reported chartered: The First National Bank of Farmeraville; capital \$25,000.

Ga., Crawford.—An official letter confirms report that the Farmers' Bank of Crawford has been chartered; capital \$25,000. Business is to begin October 1. L. O. Benton of Monticello, Ga., is president.

Ga., Jeffersonville.—Reported chartered: The Farmers and Merchants' Bank of Jeffersonville; capital \$25,000; incorporators, H. W. McCrary and others.

Ga., Lincolnton.—Reported that another bank will be organized at Lincolnton by John D. Walker of Sparta, Ga.; J. R. Boykin and Dr. W. B. Crawford of Lincolnton; capital \$25,000.

Ga., Montrose.—The Montrose Banking Co. is reported to have made application for a charter; capital \$25,000; incorporators, W. R. Cook, E. L. Wade, H. C. Black and Mrs. O. J. Pierce of Montrose and others.

Ga., Nunez.—The Farmers and Merchants' National Bank is reported to have made application for a charter; capital \$25,000; incorporators, S. H. Youmans and others of Nunez, R. E. Graham of Stillmore, G. F. Youmans of Swainsboro and F. D. Wilke of Coena.

Ga., Rome.—The Citizens' Building & Investment Co., capital \$250,000, is reported organized with directors thus: John M. Graham, president; A. Randle, vice-president; O. N. Richardson, secretary and treasurer; J. L. Bass, Elma Grant, Wilson M. Hardy, C. B. Goethelius, J. N. King, D. B. Hamilton, B. Wright, George D. Pollock, B. C. Yaney, C. R. Porter, C. E. McIn and J. M. Vandiver.

Ga., St. Marys.—Official: The Bank of Camden County has applied for charter; capital \$25,000; organizers, L. Johnson, S. C. Townsend, H. F. Rudolph, F. W. Hayt, W. E. Page, G. W. Brandon, C. S. Arnon, J. H. Banks, W. H. Mullin, J. R. Bidell, W. H. Casey, J. C. Bins and J. R. Bachlott. Business is to begin about October 1.

Ga., Union Point.—The Farmers' Bank, capital \$25,000, is reported organized with W. G. Davant president, O. E. Fluker vice-president, J. T. Hollis cashier, and John D. Walker financial agent. Business is expected to begin by September 1.

Ky., Bowling Green.—Official: The Bowling Green Trust Co. incorporated; capital \$30,000; Robert Rodes, Jr., president; Max B. Nahm, vice-president, and J. M. Ramsey, secretary and treasurer. Business began July 1.

Ky., Louisville.—Official: Central Life Insurance Co., a new concern incorporated, present capital \$100,000, will begin business this month. A press report gives officers thus: W. H. Gregory, president; R. E. Gregory, first vice-president; George D. Burdett, second vice-president; Thomas H. Rodgers, treasurer; Horace Rutherford, secretary; David W. Baird, general counsel.

Ky., Louisville.—The Central Life Insurance Co., capital \$500,000, is reported to have organized with officers thus: W. H. Gregory, president; R. E. Gregory, first vice-president; George D. Burdett, second vice-president; Thomas H. Roger, treasurer; Horace Rutherford, secretary; David W. Baird, general counsel.

La., Abbeville.—Official: The People's Bank & Trust Co. is to be chartered; capital \$50,000; directors, O. J. Chavin, P. U. Broussard, Jos. Immergluck, R. H. Washburn, H. B. Sene, J. E. Nettles and E. M. Stebbins. E. M. Stebbins will be president and J. C. Broussard cashier. Business is expected to begin October 1.

La., Gretna.—The Exchange and Savings Bank of Gretna is reported to have begun

business with Dr. Chas. F. Gelbke, president, and Charles Fricke, cashier; capital \$30,000.

La., New Orleans.—The Gretna Exchange and Savings Bank, 2d and Lavoisier Sts., is reported to have begun business with directors thus: Dr. Charles F. Gelbke, president; E. P. Brady, first vice-president; C. M. Babcock, second vice-president; Dr. C. N. Chavigny, Dr. Felix Gaudin, John Pfeffer, Vick A. Pitre, David Schwartz and Sol Wexler. Charles A. Fickie is cashier.

Md., Baltimore.—Official: The Finance & Trust Co. of Baltimore is organized with \$450,000 capital to purchase commercial accounts. Business is to begin August 1 with officers thus: President, E. L. Norton; vice-president, K. F. Brown; treasurer, F. R. V. Williams; secretary, C. W. Hodell.

Miss., Gulfport.—The Gulfport Building and Loan Association, capital \$100,000, is reported organized with T. J. B. Kellier president, W. F. Hardtner vice-president, J. W. Bradley treasurer and J. E. D'Alemberte secretary.

Mo., Eldorado Springs.—Official: The First National Bank, a conversion of the Cruce Banking Co., is incorporated with \$50,000 capital and \$5000 surplus; W. H. Allen, president; B. F. Clark, vice-president; G. W. Hainline, cashier, and E. R. Busbee, assistant cashier. Business began July 22.

N. C., Wadesboro.—Official: The Wadesboro Loan & Insurance Co. incorporated; authorized capital, \$50,000, with \$10,000 subscribed; directors, F. J. Cox, R. T. Bennett, Jr., T. S. Clock, H. W. Little, L. D. Robinson, J. F. Medley, M. L. Hain, E. P. Tiles and W. K. Boggan. Business is to begin about August 15.

N. C., Wadesboro.—The Wadesboro Loan & Insurance Co., recently chartered with authorized capital of \$50,000, has organized with directors thus: H. W. Little, J. F. Medley, R. T. Bennett, Jr., L. D. Robinson, F. J. Cox, T. S. Clark, W. K. Boggan, M. L. Ham of Morven and E. P. Liles of Lilesville.

Okla., Bartlesville.—The People's Saving & Loan Co. is reported incorporated with \$200,000 capital by W. G. Bryson, H. L. Bryant, F. E. Thurman, J. W. Master and Thos. J. Chastain.

Okla., Oklahoma City.—The Western Bond & Mortgage Co. is reported chartered; capital \$5000; incorporators, Walter D. A. Caldwell, H. E. Waldron and Ralph W. Day, all of Oklahoma City.

Okla., Oklahoma City.—Commonwealth Life Insurance Co. reported chartered; capital \$100,000; incorporators, W. E. Hall, F. M. McFarlane, G. W. Burkhardt, S. D. Tant and W. D. Hugua, all of Frederick, Okla.

S. C., Bishopville.—Official: The Merchants and Planters Bank of Bishopville has been granted a commission; capital \$50,000; incorporators, J. S. Corbett, R. W. McLendon, A. M. Lee, S. L. Austin, E. W. Tisdale and Geo. E. DuBose, all of Bishopville. Business is to begin about October 15 or November 1.

S. C., Chester.—The Home Builders' Loan Association, which recently applied for charter, is reported organized with John Frazer, president; J. T. Perkins, vice-president; G. J. Patterson, secretary and treasurer, the other directors being W. A. Corkill, J. D. Glass, J. C. Stewart, M. L. Marion, Dr. H. E. Connell and H. B. Malone; offices in the People's Bank.

S. C., Eutawville.—Bank of Eutawville, capital \$25,000, reported chartered to begin business immediately; president, E. H. Pringle, Jr., of Charleston; cashier, J. L. Hinant of Eutawville, S. C.

S. C., Marion.—Official: The Marion National Bank chartered; capital \$100,000; incorporators, S. W. Norwood, M. C. Woods, A. McIntyre, L. D. Lidead and Henry Mullins. Business is to begin September 1.

S. C., Mt. Croghan.—The Bank of Mt. Croghan is reported to have been granted a commission; capital \$10,000; petitioners, W. A. Raines, W. H. Croghan, K. J. Taylor and J. C. Croghan.

S. C., Pageland.—The Merchants' and Union Bank of Pageland is reported to have been granted a commission; capital \$25,000; petitioners, P. H. Avant, Y. A. McManus and J. Y. Jackson.

Tenn., Chattanooga.—Regarding the new bank reported being organized by L. G. Browne and others, press dispatches now state that it will be known as the Commercial Bank & Trust Co. and be capitalized at \$50,000.

Tenn., Lynchburg.—Press dispatches state that a new bank has been organized with R. A. Parks, president; W. J. Morris, vice-president, and J. L. Haston, cashier. Business to begin about September 25.

Tex., Balmorhea.—All stock is reported subscribed for the Balmorhea State Bank, capital \$15,000, and it will begin business, according to a dispatch, in about 10 days.

Tex., Campbell.—Official: The First State Bank of Campbell, a new concern, is chartered; capital \$10,000; directors, W. H. James, W. M. McBride, A. S. Moore and J. S. McLendon, all of Greenville, Tex.; W. B. Whitaker, G. M. Smith, R. N. Adair, N. W. Lohr, R. W. Gray and A. M. Butler, all of Campbell, Tex.

Tex., El Campo.—Official: The Citizens' State Bank chartered; capital \$35,000. Business began July 15 with Chris Bruns president, J. G. Mantray vice-president, W. H. Bruns cashier and N. K. Marshall assistant cashier.

Tex., Salado.—A dispatch says that Mr. Forbes of Kosse, Tex., has organized a State bank at Salado with \$10,000 capital. W. L. Forbes, cashier of the First National Bank of Kosse, may be able to give information.

Va., Rural Retreat.—Reported approved: First National Bank of Rural Retreat, Va.; capital \$25,000; organizers, J. W. Bell, L. H. Shumate, J. S. Etter and others.

Va., Richmond.—The Central National Bank of Richmond is reported to have filed application for a charter; capital \$250,000; Charles Hutzler, Richmond, Va.; W. H. Schwarzhild, J. F. Grimmel, E. B. Bowles and W. C. Schmidt.

NEW SECURITIES.

Ala., Bonz.—Reported that bids were received until August 1 for \$20,000 of 5 per cent. 30-year water-works bonds. R. B. Boroughs is City Clerk.

Ala., Decatur.—Reported voted: \$20,000 of school bonds.

Ala., Eufaula.—Montgomery parties are reported to have purchased \$50,000 of electric-light bonds at par, less \$3500.

Ala., Fayette.—Reported voted: \$22,000 of water-works and sewerage bonds.

Ala., Jackson.—Official: Voted July 10: \$15,000 of 5 per cent. 30-year water-works bonds; denomination \$500; date of opening bids not yet decided. L. E. McLeod is Mayor.

Ala., Montgomery.—A dispatch says that the People's Bank of Mobile has purchased the \$40,000 of 6 per cent. 20-year Pythian Grand Lodge Temple bonds at par.

Ala., Oxford.—Official: D. C. Cooper is receiving bids for \$12,000 of 5 per cent. 20-year sewer bonds.

Ark., Jonesboro.—Official: Washington County Court will vote on \$50,000 of courthouse bonds.

Ark., Mena.—Reported that the Wm. R. Compton Company, St. Louis, has been awarded \$65,000 of 6 per cent. water-works improvement bonds of District No. 2.

Ark., Texarkana.—The Arkansas Legislature has passed a bill authorizing the issuing of \$300,000 of levee bonds to the Miller County Levee Improvement Association.

Ark., Texarkana.—A project is said to be under way to issue \$500,000 of Miller county good-roads bonds.

Fla., Jacksonville.—Official: Bids will be received until 10 o'clock August 28 for \$250,000 of 5 per cent. Duval county bonds. Address County Commissioners of Duval county, care P. D. Cassidy, clerk.

Fla., Gainesville.—An election is called for September 5 to vote on \$40,000 of water-works improvement and \$55,000 of paving bonds.

Fla., Pensacola.—Official: Legislature has authorized \$240,000 of 4½ per cent. 30-year bonds to refund issue of 1881. John A. Merritt is chairman Board of Directors.

Ga., Ashburn.—Official: Bids will be received until 2 P. M. August 10 for \$20,000 of 5 per cent. sewer and water bonds; denomination \$1000; maturity, \$1000 January 1, 1923, and \$1000 each year thereafter up to and including 1942. Address John J. Story, City Clerk.

Ga., Cornelia.—Official: J. B. McCrary Company, Atlanta, Ga., purchased at par \$5000 of 5 per cent. 30-year sewer bonds.

Ga., Jackson.—An election is soon to be held. It is reported, to vote on \$11,000 of water-works and lighting bonds.

Ga., Lawrenceville.—Official: August 23 an election is to be held to vote on \$15,000 of sewer and \$35,000 of water-works bonds.

Ga., Lumpkin.—Reported that an election is to be held in Stewart county to vote on \$200,000 of road bonds.

Ga., Savannah.—An election will probably be held in November to vote on bonds.

Ga., Valdosta.—An official letter says: "No bond issue for the present."

La., Coushatta.—The Interstate Bank & Trust Co. is reported to have purchased school bonds.

La., Crowley.—A dispatch says that \$75,000 of 8 per cent. Sixth ward drainage bonds have been sold to Cutler, May & Co. of Chicago.

La., Ponchatoula.—Reported that \$20,000 of school bonds are voted.

La., Shreveport.—Reported voted: \$100,000 of 4½ per cent. fair-ground improvement bonds; dated August 1, 1911.

Md., Colesville.—The Mutual Fire Insurance Co. of Sandy Spring is reported to have purchased \$12,000 of 4 per cent. Colesville road-improvement bonds; denomination \$600.

Md., Cambridge.—Reported that the Dorchester National Bank has purchased \$25,000 of 5 per cent. 10-year Dorchester county road-improvement bonds at \$25.155.

Miss., Amory.—The Bank of Amory is reported to have been awarded at par \$65,000 of 5½ per cent. water and sewer bonds.

Miss., Jackson.—Reported that Jackson will offer \$150,000 of street, sewer and school bonds. Address The Mayor.

Mo., Macon.—Official: Bids will be opened August 10 by the Macon County Court for \$750,000 of 5 per cent. 5-20-year county refunding railroad aid bonds; dated July 1, 1911; denomination to be fixed with purchaser.

Mo., Springfield.—Reported that Francis Bros., St. Louis, have been awarded, at \$1170 premium, \$150,000 of 4½ per cent. Greene county courthouse bonds.

N. C., Littleton.—Bids will be received by T. J. Miles, Mayor, until noon August 25 for \$10,000 of 6 per cent. 40-year bonds. E. C. Bobbitt is Clerk.

N. C., Rocky Mount.—Reported that bids will be received until noon August 22 by Bunn & Spruill, attorneys, for the following 30-year Nash county road bonds, interest not to exceed 6 per cent: North Whitaker Township, \$20,000; Dry Wells Township, \$20,000; Castalia Township, \$15,000; South Whitaker Township, \$10,000; denomination to suit purchaser.

N. C., Sanford.—Steps are reported being taken to hold an election in Lee county to vote on \$100,000 of good-roads bonds.

N. C., Tarboro.—Official: Townsend Scott & Sons, Baltimore, have purchased \$50,000 of water-works and improvement bonds.

N. C., Wilmington.—Reported that \$100,000 of street-improvement bonds are to be placed on the market immediately.

Okla., Coweta.—Water and school bonds are reported authorized.

Okla., Custer.—Official: Kennedy & Fleming, Oklahoma City purchased on July 14 at par \$40,000 of 6 per cent. 25-year water-works and electric-light bonds; denomination \$1000; dated July 15, 1911; maturity July 15, 1926.

Okla., Durant.—Official: Election will be held September 12 on \$130,000 of 5 per cent. 25-year bridge bonds of Bryan county; denomination either \$500 or \$1000. Address County Clerk at Durant, Okla.

Okla., Hollis.—Bids will be received until noon August 10 for \$52,000 of water-works and \$20,000 of sewer 6 per cent. 30-year bonds; dated August 15. D. A. Young is president of the Board of Trustees and F. L. Cox Town Clerk.

Okla., Hugo.—Press dispatches state that an election is to be held in Choctaw county within the next 60 days to vote on \$350,000 of road bonds.

Okla., Muldrow.—The question of holding an election to vote on water and electric-light bonds is reported under consideration.

Okla., Pawhuska.—Official: George I. Gilbert, Oklahoma City, on July 17 purchased at 101 1-6 the \$60,000 of 6 per cent. 25-year water and light bonds; denomination \$1000; dated August 15, 1911; maturity August 15, 1936. J. C. Ferynoon is Mayor and Albert York, City Clerk.

S. C., Columbia.—August 15, according to press dispatches, an election is to be held to vote on \$20,000 of 5 per cent. 20-year bonds of School District No. 13, Eau Claire precinct. J. B. Duke, B. B. Kirkland and N. W. McDermid, School Trustees.

S. C., Edgefield.—Press dispatches state that, owing to error in advertisement calling for the election when \$15,000 of electric-light bonds were voted, a second election will be held August 21. It is also stated that the purchasers of the first issue agree to still take them as soon as the defect is perfected by another election. A. E. Padgett is chairman commission.

S. C., Marion.—Official: Bids will be received by J. W. Johnson, attorney, Board of Trustees, until noon August 31 for \$20,000 of 5 per cent. 40-year bonds of High School District No. 1, and \$30,000 of 5 per cent. 20-year bonds of School District No. 36.

S. C., Rock Hill.—Reported that a petition

is to be prepared providing for a special election to vote on \$50,000 of school improvement bonds.

Tenn., Bristol.—Official: \$40,000 of water-works bonds have been authorized, and it is expected they will soon be put on the market. L. H. Gammon is Mayor.

Tenn., Clarksville.—Bids will be received until noon September 4 for \$60,000 of 4½ per cent. 10-year water-works and improvement bonds; denomination \$1000. Address the Mayor.

Tenn., Jackson.—Reported voted: \$100,000 of bonds for extension of the New Orleans, Mobile & Chicago Railroad from Middleton, Tenn., to Jackson, Tenn.

Tenn., Jonesboro.—Official: \$25,000 of bonds in aid of electric street railway in Jonesboro will be voted on in September. W. C. Leab is clerk.

Tenn., Memphis.—Reported that all bids received July 24 for the \$250,000 of 4½ per cent. 50-year school bonds were rejected, and it is stated the bonds will probably be sold at private sale. A. B. Hill is secretary Board of Education.

Tenn., Memphis.—Press dispatches state that \$661,000 of 6 per cent. short-term front-foot assessment, \$300,000 of 35-year general street improvement and \$150,000 of 25-year normal school 4½ per cent. bonds have been approved, and bids for same will be received until 2 o'clock P. M. August 22; denomination \$1000. Ennis M. Douglas is City Clerk.

Tenn., Park City.—P. O. Knoxville.—The Provident Savings Bank & Trust Co. of Cincinnati, O., is reported to have purchased at par \$25,000 of 5 per cent. 30-year street and refunding bonds.

Tenn., Rogersville.—Official: A. B. Leach & Co., 8 South Dearborn St., Chicago, Ill., purchased on June 10, at \$600 premium, \$20,000 of 6 per cent. 10-year Hawkins county bridge bonds; denomination \$500; dated January 1, 1911; maturity January 1, 1921.

Tenn., Rogersville.—An election will be held in Hawkins county August 19 on \$20,000 of 5 per cent. 40-year road bonds, not to be sold less than par.

Tenn., Shelbyville.—The Bank of Commerce & Trust Co. has, according to press dispatches, been awarded \$200,000 of 4½ per cent. 30-year Shelby county school-building bonds at 101.525. W. L. Terry is secretary School Commissioners.

Tex., Alice.—August 31, it is reported, an election is to be held to vote on water-works bonds.

Tex., Amarillo.—Official: July 25 an election was held to vote on \$15,000 of sewer-extension and \$10,000 of street-paving bonds. J. H. Patton is Mayor. Press reports say bonds carried.

Tex., Amarillo.—Press dispatches state that a petition to the Commissioners' Court of Potter County asks that body to reconsider its former decision to call an election for a small bond issue for courthouse and to make the call for \$300,000.

Tex., Angleton.—Bids will be received until noon August 21, it is reported, for \$100,000 of 4 per cent. 40-year Brazoria county bridge bonds; denomination \$1000.

Tex., Angleton.—Official: Bids will be received by J. W. Munson, County Judge of Brazoria county, until noon August 21 for \$100,000 of 4 per cent. bridge bonds; denomination \$10,000.

Tex., Aransas Pass.—Reported voted. \$20,000 of independent school district bonds.

Tex., Austin.—The Attorney-General has approved the following securities: \$5000 of 5 per cent. 10-40-year DeWitt county common school district No. 3 bonds; \$16,000 of 5 per cent. 20-40-year Navarro county common school district No. 2 bonds; \$10,000 of 5 per cent. 20-year Hardin county common school district No. 16; \$4000 of 5 per cent. Taylor improvement bonds; \$17,500 of 5 per cent. 20-40-year Nocona water-works bonds; \$10,000 of 5 per cent. 40-year Center independent school district bonds; \$10,000 of 5 per cent. 15-40-year Ladonia water-works bonds; \$25,000 of 5 per cent. Ferris schoolhouse bonds; \$1500 of 5 per cent. 20-year Fayette county, district 60, schoolhouse bonds; \$35,000 of Greenville water-works-extension bonds.

Tex., Bryan.—August 21, it is reported, an election is to be held to vote on \$30,000 of water-works, electric-light and sewerage bonds.

Tex., Cameron.—A dispatch says that the court has ordered an election September 1 on \$100,000 of road bonds in Precinct No. 1, Milam county.

Tex., Canadian.—Official: J. L. Jennings, County Judge, is offering at private sale

[For Additional Financial News, See Page 90.]

Established 1835 The Merchants National Bank

South and Water Sts., BALTIMORE, MD.
DOUGLAS H. THOMAS, President.
WM. INGLE, Vice-President and Cashier.
J. C. WANDS, Asst. Cashier.
JOHN B. H. DUNN, Asst. Cashier.
Capital \$1,500,000
Surplus and Profits \$900,000
Deposits, \$12,000,000
Accounts of Banks, Bankers, Corporations and Individuals solicited. We invite correspondence.

THE FIRST NATIONAL BANK OF KEY WEST, FLA.

United States Depository and Disbursing Agent.

Capital - - - \$100,000
Surplus and Undivided Profits - \$40,000
A general banking business transacted. Special attention given to collections.

MANUFACTURERS and JOBBERS

Frequently find it necessary to have BANKING FACILITIES in addition to those offered by local banks.

FIRST NATIONAL BANK OF RICHMOND, VA.

With assets of nine million dollars, offers just the additional facilities required.
Jno. B. Purcell, President.
Jno. M. Miller, Jr., Vice-Pres. & Cashier.

INVESTMENT SECURITIES

Southern Stocks and Bonds
Municipal and Corporation
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Delaware Trust Company

WILMINGTON, DELAWARE

INCORPORATING under broad, liberal, safe and stable Delaware laws. A fully equipped department for proper organization and registration of corporations.

BANKING AND TRUST department gives special attention to out of town customers' accounts.

TITLE DEPARTMENT examines and guarantees title to realty throughout Delaware.

REALTY DEPARTMENT has sites for manufacturing industries. Modern methods of management of property.

EDWARD T. CANBY, President.

J. ERNEST SMITH, V.-Pres. and Gen. Counsel.

WM. G. TAYLOR, Treasurer.

HARRY W. DAVIS, Secretary.

W.W. PUSEY, 2d Title and Real Estate Officer.

H. B. Wilcox, President. Jos. R. Ford, V.-Pres.
Wm. S. Hammond, Cash. Saml. W. Tschudi, A. Cash.
R. E. Bolling, A. Cash. Raymond B. Cox, Auditor.

The First National Bank 17 South St., Baltimore, Md.

Capital - - - \$1,000,000
Surplus and Net Profits - - - 560,000
Resources - - - 9,000,000

Especially well equipped to handle the business of Southern Manufacturers, Corporations and Individuals. We invite a call or correspondence.
1863-48 Years of Success-1911

The National Exchange Bank OF BALTIMORE, MD.

Hopkins Place, German and Liberty Sts.
Capital \$1,000,000
July 15, 1908, Surplus and Profits \$671,631.60

OFFICERS:
WALDO NEWCOMER, President.
SUMMERFIELD BALDWIN, Vice-Pres.
R. VINTON LANSDALE, Cashier.
C. G. MORGAN, Asst. Cashier.

Accounts of Mercantile Firms, Corporations, Banks, Bankers and Individuals Invited.

JOHN NUVEEN & CO.

1st Nat. Bank Bldg., CHICAGO

We purchase SCHOOL, COUNTY and MUNICIPAL BONDS. Southern Municipal Bonds a Specialty.

Write us if you have bonds for sale.

FLORIDA TRUST CO.

JACKSONVILLE, FLA.

Authorized Capital, - - \$600,000

Mortgages, Real Estate and Securities Bought and Sold
Acts as Guarantors, Trustees, Executors, etc.

Southern Steam Railroad Securities

DEALT IN

F. J. LISMAN & CO.

Specialists in Steam R. R. Securities

Members New York Stock Exchange,

30 Broad Street NEW YORK

39 Pearl Street, Hartford.

Land Title & Trust Bldg., Philadelphia.

CAPITAL AND SURPLUS - - - \$3,500,000

THE BALTIMORE TRUST CO. BALTIMORE, MD.

Solicits Accounts of Banks, Bankers, Corporations, and Individuals
Interest Allowed on Deposits Subject to Check.
Special Rates Made on Time Deposits.

OFFICERS

THOMAS H. BOWLES, President DOUGLAS H. GORDON, First V. Pres.
G. C. MORRISON, Second V.-Pres. SAMUEL C. ROWLAND, Third V. Pres.
C. D. FENHAGEN, Secretary-Treasurer

As every business requires a system, the question is which one to choose. We have been devising costs and accounting systems in all lines for years. Expenses have been minimized, conditions analyzed, and accuracy and economy realized. Our systems are simple and free from red tape; are expandable so as to meet new conditions, and their adoption does not interfere with regular routine of office. We go anywhere for business. Inquiries and consultations invited.

INTERSTATE AUDIT CO., 729 15th St. N. W., WASHINGTON, D. C.

CHARLES L. HEHL, C. P. A., President
JOHN KÜCHLER, C. P. A., Vice-President

ELMER L. HATTER, C. P. A., Treasurer
ERNEST E. WOODEN, C. P. A., Secretary

BALTIMORE AUDIT COMPANY

1027-1033 Calvert Building

BALTIMORE, MD.

BRANCH—Monticello Arcade Building, Norfolk, Va.

CHARLES NEVILLE Accountant and Auditor BUSINESS SYSTEMS

212-213 National Bank Building
SAVANNAH, GA.

Long Distance Phone
References—Any Bank in Savannah

GRUSSELLE AUDIT CO.

(INCORPORATED)
ACCOUNTANTS AUDITORS
SYSTEMATIZERS

1006 Candler Bldg. ATLANTA, GEORGIA

All audits conducted by or under direct supervision of members of the company.

PUBLIC ACCOUNTANTS

The South-Eastern Audit Co.

COLUMBIA, S. C.

Established 1878.

JOHN C. SHORT & SON

Investment Brokers

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51 Liberty Street NEW YORK

Investment securities bought, sold or exchanged for other securities. Loans procured for Railroad, Industrial and other corporations. Special attention given to securities issued for development or extension purposes in the South.

BALANCED valves
in steam engines
are preferred by well
balanced engineers.
Saves coal.
Avoids repairs.

ATLAS ENGINE WORKS
INDIANAPOLIS

Municipal — Railroad — Public Utility BONDS

Purchased in entire issues direct from Municipalities and Corporations. Circulars describing sound bonds which we have investigated and recommend for investment mailed to investors upon request.

Correspondence invited.

N. W. Halsey & Co., Bankers

49 Wall Street, New York

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CHICAGO

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ADDITIONAL CAPITAL FOR DEVELOPMENT OF YOUR BUSINESS.

We will promptly consider applications from progressive, well established industries, steam and electric railways and public service corporations.

Our institution has
THE LARGEST BANKING CAPITAL IN THE SOUTHERN STATES,
and during 27 years' direct Southern affiliation has been actively engaged in promoting Southern enterprises.

ENTIRE ISSUES OF BONDS PURCHASED. MERGERS FINANCED.
INTEREST PAID ON DEPOSIT ACCOUNTS
Correspondence Invited.

Mercantile Trust and Deposit Company OF BALTIMORE

Established 1884.

A. H. S. POST, President

Capital and Surplus, \$4,500,000

"AMERICAN"

FOR LONG DRIVES

INDOORS OR OUTDOORS

MANILA ROPE TRANSMISSION

has demonstrated its superiority over other methods of power distribution in that it is

Low in first cost and maintenance.

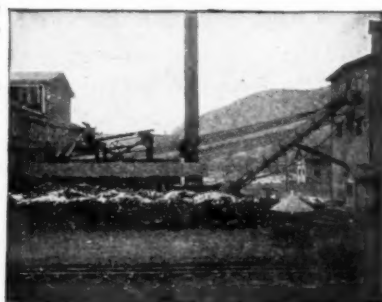
High in efficiency.

Positive and steady in operation.

Noiseless while running.

Unlimited in amount of power that may be transmitted.

All the essential qualities of a rope for driving purposes are combined in



An outdoor drive between buildings, 106 feet between centers "American System"

"AMERICAN" TRANSMISSION ROPE

It is weatherproof and is not affected by exposure to heat, cold or moisture. It requires no external dressing of any kind, as it is self-lubricating and stretched in process of manufacture.

We also manufacture Manila, Sisal and Jute Rope, Bale, Hay and Hide Rope, Lath, Yarn and all kinds of Bundling Strings.

Write for samples, prices and "The Blue Book of Rope Transmission"

American Manufacturing Co.

Largest Workers of Fibre in the World

63-65 Wall Street

New York City

TRANSMISSION ROPE

\$6500 of 5 per cent. 20-40-year bonds of School District No. 1; denomination \$500.

Tex., Coleman.—August 12, it is reported, an election is to be held to vote on \$25,000 of 5 per cent. 15-40-year street-improvement bonds.

Tex., Dallas.—A dispatch says that the \$250,000 of school-improvement bonds voted in May will not be issued because they would raise the city debt above the legal limit.

Tex., Dallas.—Reported voted: \$500,000 of Dallas county good-roads bonds.

Tex., El Paso.—Official notice is given that an election will be held August 8 on \$294,000 of funding and \$50,000 of school-building bonds, all 5 per cent. 40-year. C. E. Kelly is Mayor and C. W. Fassett City Clerk.

Tex., Frankston.—Reported voted: \$8000 of independent school district building bonds.

Tex., Garland.—\$15,000 of school-building-addition bonds are reported voted.

Tex., Galveston.—Press dispatches state that Splitzer, Rorick & Co. purchased, at par and interest, \$700,000 of 5 per cent. Galveston causeway bonds.

Tex., Greenville.—Official: \$85,000 of 5 per cent. water-improvement bonds were voted July 17; denomination \$1000; bonds not yet sold. T. E. Byrd is Mayor.

Tex., Lott.—Bids will be received until 8 P. M. August 17 for \$14,000 of 5 per cent. 40-year water-works bonds; denomination \$500. A. B. Hemphill is Mayor.

Tex., Madisonville.—Reported that bids will be received at any time by T. W. Byers, secretary Board of Education, for \$18,000 of 5 per cent. 10-40-year independent school district building bonds; denomination \$400; dated April 1, 1911.

Tex., Marlin.—Reported voted: Street bonds.

Tex., Mission.—Reported voted: \$15,000 of water-works bonds.

Tex., Polytechnic.—Reported that \$30,000 of 6 per cent. 10-40-year water-works bonds are to be offered.

Tex., Port Arthur.—Woodlin, McNear & Moore of Chicago has, according to press dispatches, purchased \$25,000 of 5 per cent. 20-40-year independent school district bonds.

Tex., Port Neches.—Official: Cutler, May & Co. of Chicago purchased at par \$20,000 of 5 per cent. 40-year brick school-building bonds; denomination \$1000; dated April 10, 1911; maturity April 10, 1951; bonds were voted February 4, 1911.

Tex., Smithville.—Reported voted: \$3000 of bridge bonds.

Tex., Taylor.—Reported that on August 29 an election is to be held to vote on \$16,000 of school-building bonds.

Tex., Taylor.—A dispatch says that another election will be held August 29 on \$16,000 of school-building improvement bonds.

Tex., Taylor.—Press dispatches state that the \$16,000 of school-improvement bonds have been declared void and that another election will be held.

Tex., Waco.—Official: Splitzer, Rorick & Co., Toledo, O., on July 24 purchased at par and interest \$100,000 of 5 per cent. 5-40-year bonds of Road District No. 1, McLennan county; denomination \$1000. Tom L. McCullough is County Judge.

Tex., Waco.—Reported that bids will be received until 10 A. M. August 22 for \$80,000 of sewer, \$50,000 of street opening and \$70,000 of school 5 per cent. 30-year bonds; denomination \$1000; dated July 1, 1911. Address John C. Davis, City Secretary.

Va., Graham.—Reported that John L. Williams & Sons of Richmond, Va., and Hoheler & Cummings of Toledo, O., are bidders for the \$50,000 of 5 per cent. 30-year school, water, street and sewer bonds.

Va., Keysville.—Official: Defeated: \$8000 of school bonds. H. D. Peters is Mayor.

Va., Rocky Mount.—Farson, Son & Co. of Chicago are reported to have been awarded \$50,000 of 5½ per cent. water, light and sewer bonds at a premium of about \$235.

Va., Suffolk.—Reported voted: \$16,000 of school bonds of Sleepy Hole magisterial district.

Va., Walton.—Reported defeated: \$8000 of bonds for constructing schoolhouse in Kupville.

W. Va., Bramwell.—Official: July 29 an election will be held to vote on \$7000 of bridge and \$6000 of macadamizing 6 per cent. 5-20-year bonds; denomination \$1000. Address J. A. Waddell, Mayor.

W. Va., Clarksburg.—Reported voted: \$275,000 of school-building bonds.

W. Va., Follansbee.—Reported voted: \$17,000 of paving bonds.

W. Va., Grafton.—Official: \$19,000 of 4½ per cent. 34-year school bonds were voted July 29 as reported; dated September 1, 1911; denomination \$500. Bids will be opened August 19. Not to be sold less than par. W. Merle Watkins is secretary of the Board of Education.

W. Va., Grafton.—Reported voted: \$19,000 of school bonds.

W. Va., McElroy Township (P. O. New Martinsville).—Reported voted: \$175,000 of railroad aid bonds.

At Macon, Ga., bids will be received until noon September 4 for \$700,000 of 4½ per cent. water-works bonds. Further particulars will be found in the advertising columns.

At Angleton, Tex., bids will be received until noon August 21 for \$100,000 of 4 per cent. Brazoria county bridge bonds. Further particulars will be found in the advertising columns.

At Jacksonville, Fla., bids will be received until 10 o'clock August 28 for \$250,000 of 5 per cent. Duval county bonds. Further particulars will be found in the advertising columns.

At Ashburn, Ga., bids will be received until 2 P. M. August 10 for \$20,000 of 5 per cent. sewer and water bonds. Further particulars will be found in the advertising columns.

At Marion, S. C., bids will be received until noon August 31 for \$20,000 of 5 per cent. 40-year bonds of High School District No. 1 and \$30,000 of 5 per cent. 20-year bonds of School District No. 36. Further particulars will be found in the advertising columns.

At Oxford, Ala., bids are being received for \$12,000 of 5 per cent. 20-year sewer bonds. Further particulars will be found in the advertising columns.

FINANCIAL NOTES.

The First State Bank of Windom, Tex., is reported to have increased its capital from \$17,000 to \$25,000.

The Bank of Hickory Grove, S. C., according to press reports, has been authorized to increase its capital from \$12,000 to \$20,000.

The Lometa State Bank of Lometa, Tex., according to press dispatches, has increased its capital from \$20,000 to \$40,000.

The Rio Grande Valley Bank & Trust Co. of El Paso, Tex., has, according to press dispatches, increased its capital from \$100,000 to \$300,000.

A condensed statement of the 342 State banks in Mississippi reporting to the State Auditor under call of June 7, 1911, shows loans and discounts, \$49,991,226; due from other banks, \$13,152,155; cash on hand, \$3,356,065; capital paid in, \$13,302,886; surplus, \$2,882,997; undivided profits, \$2,200,217; individual deposits, \$43,788,906; time certificates of deposit, \$11,242,855; due other banks, \$683,648; total resources, \$76,489,527.

Sale of Municipal Bonds

The town of Mt. Olive, N. C., offers for sale twelve thousand dollars six per cent. interest-bearing coupon water-works bonds. Bonds to be of the denomination of \$500 each, interest payable annually, dated October 1, 1911, and maturing October 1, 1931.

The undersigned will receive sealed bids for the purchase of said bonds up to 5 o'clock P. M. September 5, 1911. Bids to be opened by the Board of Town Commissioners on September 5, 1911, at 8 o'clock P. M. No bid for less than par for all or a part of the issue will be considered. A certified check for 5 per cent. of the amount bid must accompany each bid. The Board of Town Commissioners reserves the right to reject any or all bids.

The undersigned town officials will be pleased to furnish any information covering the matter to prospective bidders.

C. W. OLIVER,
Chairman Water Committee.
G. F. HERRING,
Mayor and Clerk.

SURETY BONDS

Fidelity and Deposit Co.

OF MARYLAND

Home Office, BALTIMORE, MD

Assets Over \$5,000,000

Pioneer Surety Co. of the South.

Becomes Surety on bonds of every description.

AGENTS IN ALL PRINCIPAL CITIES

HARRY NICODEMUS, Sec'y and Treas. EDWIN WARFIELD, President.

GO SOUTH!
FOR SALE Timber, Phosphate, Coal, Iron, Farm, Ranch, and Other Properties and Investments, in Southern States, Cuba and Mexico.
SOUTHERN STATES DEVELOPMENT CO.
GEO. B. EDWARDS, President,
Tribune Bldg., 154 Nassau St., New York, N. Y.
Connections in the Principal Cities of Europe.

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Investments, Stocks and Bonds
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NORTH CAROLINA STATE BONDS MY SPECIALTY
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BIRMINGHAM, ALA.
FIRST NATIONAL BANK BUILDING



FINANCIAL STRENGTH

is what you demand of your depository, and is what we offer. We started 1869. We guarantee absolute safety for your principal, and will pay 4% in our Savings Department and 4% on Certificates of Deposit, both payable quarterly. Let us send printed matter.

The Savannah Bank & Trust Company

SAVANNAH, GEORGIA

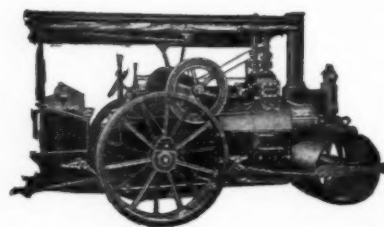
Capital and Surplus - - \$1,200,000

OFFICERS

WM. F. McCauley, Pres. Cashier—SAM'L L. CLAY,
CHAS. G. BELL, Vice-Pres. Asst. Cashier—M. D. PAPY.

Since 1900 Savannah's manufacturing plants have increased 78 per cent. in number, 181 per cent. in capital invested and 110 per cent. in value of annual products.

IROQUOIS

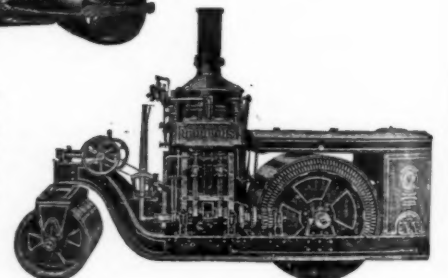


Macadam Rollers

Made in 10, 12, 15 ton sizes. Mass. Standard boilers and adjustable scrapers are only two of many features of Iroquois superiority.

Tandem Rollers

Two and a half, 5, 8 ton sizes. Mass. Standard boilers, steel gears step toothed, frames of heavy channel in one piece, are features found in no other roller.



Trouble-Proof, Long-Service Paving and Road-Making Tools and Machinery

We manufacture a complete line of heating kettles (50 to 400 gals. capacity), surface heaters, mixers, fire wagons, pouring and melting pots, old material pans, hoes, cutters, rakes, dippers, tampers, sandals, etc.

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IROQUOIS IRON WORKS

BUFFALO, N. Y.

OFFICES IN ALL PRINCIPAL CITIES

Canadian Representative: Canada Foundry Co., Toronto, Ont.

The American Tobacco Company

FOUR PER CENT. GOLD BONDS

To the Holders of the Four Per Cent. Gold Bonds of THE AMERICAN TOBACCO COMPANY.

(Issued under Trust Indenture dated October 20, 1904, of which the Guaranty Trust Company of N. Y. is the Successor Trustee).

AND

To the Holders of the Fifty-Year Four Per Cent. Gold Bonds of CONSOLIDATED TOBACCO COMPANY.

(Issued under Indenture to Morton Trust Co., dated June 15th, 1901, of which the Guaranty Trust Company of N. Y. is the Successor Trustee).

The Supreme Court of the United States, in its decision in the suit brought by the United States against The American Tobacco Company and others, has directed that proceedings be had in the Circuit Court of the United States for the purpose of ascertaining and determining upon some plan or method of dissolving the combination, and of recreating, out of the elements now composing it, a new condition, which shall be honestly in harmony with and not repugnant to the law. These proceedings must necessarily affect the interest of every holder of the securities of The American Tobacco Company and of every holder of the bonds of the Consolidated Tobacco Company. The undersigned have consented, at the request of the holders of a number of the Four Per Cent. Gold Bonds of The American Tobacco Company, to act as a Committee for the protection of the interests of all holders of the said bonds, and of all holders of the outstanding Fifty-Year Four Per Cent. Gold Bonds of the Consolidated Tobacco Company, who shall become parties to an agreement now in course of preparation, to be dated July 28th, 1911.

Holders of the said bonds are requested to deposit the same with the Guaranty Trust Company of New York, 28 Nassau Street, New York City, the depositary to be named in said agreement, which will issue transferable certificates of deposits therefor. All registered bonds must be properly endorsed in blank.

The Committee believes that the interests both of the holders of the Four Per Cent. Bonds of The American Tobacco Company and of the Four Per Cent. Gold Bonds of the Consolidated Tobacco Company demand that measures be promptly taken for their protection. The decision of the Supreme Court indicates that the proceedings must be completed and their purposes substantially accomplished within six months. Immediate action is therefore absolutely necessary, and the Committee requests that the said bonds be deposited at once. Deposits will be received up to and including the 28th day of August, 1911.

Copies of the deposit agreement may be had on and after July 31st, 1911, from the GUARANTY TRUST COMPANY, or from the Secretary of the Committee. It is the intention of the Committee to make an application to have the certificates of deposit issued by the Committee listed upon the New York Stock Exchange.

Dated New York, July 28th, 1911.

CHARLES H. SABIN,
Chairman;
PHILIP LEHMAN,
J. R. McALLISTER,
SAMUEL McROBERTS,
SAMUEL SLOAN,
Committee.

F. J. H. SUTTON,
Secretary,
28 Nassau Street, New York.
EVARTS, CHOATE & SHERMAN,
JOSEPH H. CHOATE,
Counsel.

The American Tobacco Company

PREFERRED STOCK

To the Holders of Preferred Stock of THE AMERICAN TOBACCO COMPANY:

In view of the decision in the recent decision of the Supreme Court of the United States in the suit brought by the United States of America against The American Tobacco Company and others, that proceedings be had for the purpose of ascertaining and determining upon some plan or method of dissolving the combination and of recreating out of the elements now composing it a new condition which shall be honestly in harmony with and not repugnant to the law without unnecessary injury to the public or the rights

of private property, and at the request of the holders of a large amount of the preferred stock of said The American Tobacco Company, the undersigned have consented to act as a committee for the protection of the interests of all of the holders of said preferred stock who shall become parties to an agreement now in course of preparation, to be dated July 28th, 1911.

Holders of said preferred stock are requested to deposit their certificates on or before AUGUST 28, 1911, with CENTRAL TRUST COMPANY OF NEW YORK, 54 Wall Street, New York City, the depositary to be named in said agreement, which will issue transferable certificates of deposits therefor. All certificates must be properly endorsed in blank and bear all stock transfer stamps required by the laws of the State of New York.

As the opinion of the Supreme Court directs that a period of six months be allowed for the accomplishment of the purposes above stated, the interests of the holders of said preferred stock demand, in the judgment of the committee, immediate and concerted action for their protection, and the Committee urges the necessity of an immediate deposit of said stock.

Copies of the deposit agreement may be obtained on and after July 31, 1911, from the depositary or from the secretary of the committee.

Application will be made to list the certificates of deposit issued by the committee upon the New York Stock Exchange.

Dated July 28, 1911.

J. N. WALLACE,
Chairman;
FREDERICK STRAUSS,
CHARLES D. NORTON,
HARRY BRONNER,
ERNEST ISELIN,
Committee.

F. L. BABCOCK, Secretary,
54 Wall Street, New York City.
ADRIAN H. LARKIN, Counsel.

The American Tobacco Company

Forty-Year Six Per Cent. Gold Bonds

To the Holders of the Forty-Year Six Per Cent. Gold Bonds of THE AMERICAN TOBACCO COMPANY.

In the recent decision of the Supreme Court of the United States in the action brought by the United States of America against The American Tobacco Company and others, directions were given that proceedings be had for the purpose of ascertaining and determining upon some plan or method of dissolving the combination and of recreating, out of the elements now composing it, a new condition which shall be honestly in harmony with and not repugnant to the law, without unnecessary injury to the public or the rights of private property, and at the request of the holders of a large amount of the Forty-Year Six Per Cent. Gold Bonds of The American Tobacco Company, issued under and secured by the deed of trust dated October 20, 1904, under which the Guaranty Trust Company of New York is the Successor Trustee, the undersigned have consented to act as a committee for the protection of the interests of all of the holders of said bonds who shall become parties to an agreement now in course of preparation to be dated July 28, 1911.

Holders of said Six Per Cent. Gold Bonds are hereby requested to deposit their said bonds (with all unmatured coupons of coupon bonds) with the GUARANTY TRUST COMPANY OF NEW YORK, 28 Nassau Street, New York City, the depositary to be named in said agreement, which will issue therefor negotiable certificates of deposit. All registered bonds must be accompanied by powers of attorney to transfer them to the committee.

The decree of the Supreme Court allows a period of six months for the accomplishment of its directions. In view of the shortness of this period of time and the many things to be done, the Committee deems immediate and concerted action essential for the protection of the interests of the bondholders, and it therefore requests that said bonds be deposited at once, but not later than AUGUST 28, 1911.

Copies of the deposit agreement may be obtained on and after July 31, 1911, from the depositary or from the secretary of the committee.

Application will be made to list the certificates of deposit issued by the committee upon the New York Stock Exchange.

Dated July 28, 1911.

ALEXANDER J. HEMPHILL,
Chairman;
T. DE WITT CUYLER,
HOWLAND DAVIS,
J. HORACE HARDING,
ALBERT H. WIGGIN,
Committee.

LEWIS B. FRANKLIN, Secretary,
28 Nassau Street, New York City.
MORGAN J. O'BRIEN, Counsel.

Creating Business Opportunities For You

Mr. A. C. Burnett, Secretary of the Commercial Club at Cadiz, Ky., writing under date of July 22d to the Manufacturers Record, said:

"The attached news clipping is from the Cadiz Record of July 20th. We sent you a news item about this proposed mill in the early spring, the same being mentioned by you in your usual column. The promoters were deluged with mail of all kinds, and finally employed people to do the work who wrote them from seeing the matter mentioned by you."

This is the brief story of how at least one reader of the Manufacturers Record was benefitted by getting a contract, and of how A. P. White & Co. of Cadiz, were benefitted through securing bids called forth by our publication of the item. This was published on January 26th, having been sent us direct by White & Co., as well as by the Commercial Club. It was a brief statement to the effect that A. P. White & Co. would erect a flour mill with a daily capacity of 150 barrels, and an elevator of 50,000 bushels capacity. It was reported that the buildings would be of reinforced concrete, and that a hydro-electric plant would be constructed to furnish power and light to the mill, as well as to other manufacturers.

Illustrative of the value of this character of information is a letter from Ross Hunter, District Manager of T. L. Smith Company of Milwaukee, manufacturers of contractors' machinery and equipment, who, writing from Atlanta under date of July 21st, says:

"Knowing that you would be interested in the results obtained from the Manufacturers Record's Daily Bulletin, I take pleasure in telling you that we have found these Bulletins very valuable to us at this office. In consequence the Bulletins receive careful attention from us."

Are you getting as much benefit out of the Construction Department of the Manufacturers Record and of our Daily Bulletin as others are? If not, why not follow their example?

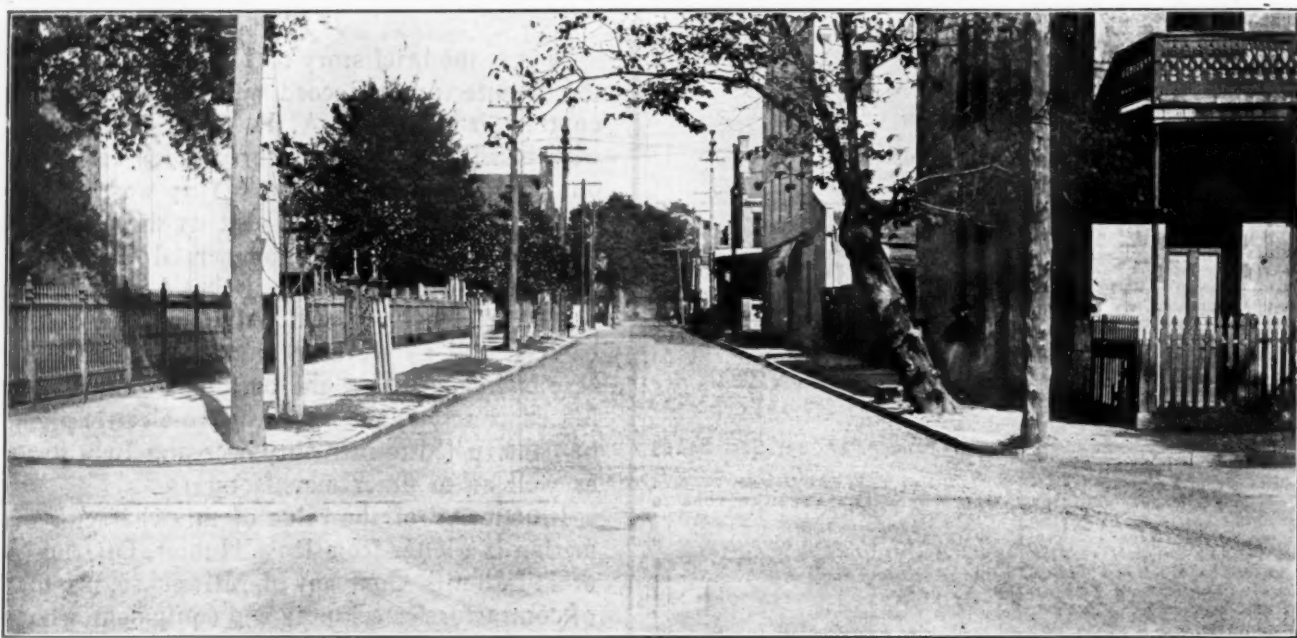
The reason why advertising is profitable, and why people get results through the Manufacturers Record, is indicated in a letter from Mr. F. R. Hewitt of Asheville, N. C., whose views about the Manufacturers Record are typical of the views of thousands of others. Under date of July 26th, he wrote:

"I have been a subscriber for years. I have read it almost constantly since Mr. Edmonds started the paper, and consider it invaluable to the South and the most valuable publication that I pay for. Sometimes differing with the Record, I think that the fight it has made for Southern progress is invaluable beyond expression, and that a paid-for copy ought to be on every club table and business desk on the American continent. I trust that it will find its way from pole to pole, for it will always do good and never harm. Your friend, reader and constant advocate."

With readers who think of the Manufacturers Record in this way it is not surprising that it brings results to advertisers.



Barrett's PAVING PITCH



Creosoted Block Pavement in Mobile, Ala., Filled with Barrett's Paving Pitch in 1905.

A Foreign Expert's Opinion

In a paper presented at the Second International Road Congress in Paris last year, Mr. Hector F. Curran, said in relation to the ancient argument between pitch and cement as a filler for street pavements:

"The advantage of pitch as against cement is that the pitch will more rapidly adjust itself to the expansion and contraction of the wood paving, whilst a cement joint has no means of doing this after the bond is broken, and the moisture, therefore, more readily finds its way into the surface of the roadway. Again, the traffic can be at once allowed to pass over the roadway as soon as the pitch grouting has cooled, whilst it is necessary for seven days to elapse to allow the cement grouting to become thoroughly set."

Mr. Curran did not state all the points of superiority of pitch over cement for the joints of block pavements. He might well have added that a pitch-

filled pavement never cracks, never rumbles, is protected against damage from the vibration of street car rails, is easily removed for repairs without destruction of the block, and is easier on horses than the rigid cement-bonded surface. Furthermore, the pitch-filled pavement gives better foothold for horses on account of the wearing away of the filler at the top of the joints. In case of any punctures of the waterproof seal, the pitch on a hot day will automatically repair itself, whereas cement will not.

With pitch, "every joint is an expansion joint." No special expansion joints are needed.

Barrett's Paving Pitch is the best pitch for all paving purposes, whether brick, granite or wood is used. We make it especially for this purpose, and it is the same quality and grade of pitch which we have been supplying for the last thirty years with satisfaction to everybody. Booklets on request.

BARRETT MANUFACTURING COMPANY

New York
Pittsburg

Chicago
Cincinnati

Philadelphia
Kansas City

Boston

Minneapolis
New Orleans

Seattle

St. Louis

Cleveland
London, Eng.

We Guarantee Our LAMPS



to give you satisfaction,
or return them at our
expense.

We know our goods are
properly refilled and will
please you.

2 to 6 c. p.
10 to 60 watts
Standard Packages
F. O. B. Danvers

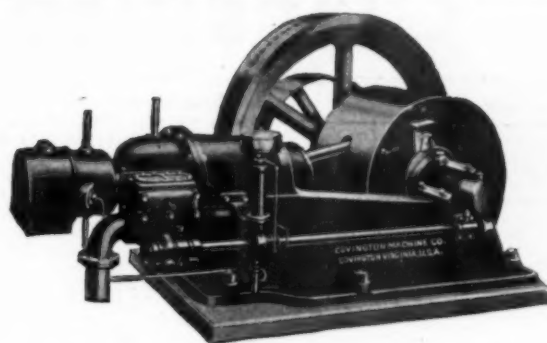
Any volt 100 to 130 @

9c

Boston Incandescent Lamp Co.

128 Maple Street

DANVERS, MASS.



Scientific Management

THE first, last and biggest economy you will effect in your struggle for improved efficiency will be your Power Cost Economy. There is the great waste; it is dissipating your margin of profit ten hours every working day in the year.

The Oil Engine is not an experiment. It has been an accepted fact for twenty years.

COVINGTON OIL ENGINES

designed by the foremost Engineer in the business, embody every improvement developed in Oil Engine history. They furnish power so cheap that you will surely install them eventually—when you learn that they are as dependable as steam plants or central-station service.

Note the simple, clean and correct design. The cylinder supported inside the main frame. The bearings ample. The massive construction. The absence of small parts.

Operating on low pressures, at slow speeds, these heavy-duty, four-cycle engines, using no spark or hot tube, are almost "fool-proof," and do not affect fire insurance rates.

The sensitive governor varies the fuel-oil pump stroke, and with the single heavy fly-wheel accomplishes a speed regulation that meets all requirements for electric-lighting service and other purposes. Covington Machine Company. Works: Covington, Virginia.

B. D. POWLESON, Sales Agent - 4 Rector Street - New York

COVINGTON OIL ENGINES



A Few Important Contracts in which Standard brand Port- land Cement was Used

Government Postoffice, Atlanta, Ga.....	3,000 barrels
Atlanta Journal Bldg., Atlanta, Ga.....	4,000 "
(Reinforced concrete.)	
Government Forts, Atlanta, Ga., and Pensa- cola, Fla.....	2,000 "
Capital City Club, Atlanta, Ga.....	4,000 "
(Reinforced concrete.)	
Imperial Hotel, Atlanta, Ga.....	4,000 "
(Reinforced concrete.)	
Tri-State Hospital, Memphis, Tenn.....	3,000 "
(Reinforced concrete.)	
Pensacola Jail, Pensacola, Fla.....	4,000 "
(Reinforced concrete.)	
Advertiser Building, Montgomery, Ala.....	3,000 "
(Reinforced concrete.)	
Hydro-Electric Plant, Columbus, Ga.....	30,000 "
Water Supply Dam, T. C. I. & R. R. Co., Ensley, Ala.....	50,000 "
Brown-Marx Building, Birmingham, Ala.....	2,000 "
Tunnels at Rogers, Ala.....	10,000 "
(Reinforced concrete.)	
Dillingham St. Bridge, Columbus, Ga.....	20,000 "
(Reinforced concrete.)	

Let Us Furnish **STANDARD** For Your Work

Manufactured by

Standard Portland Cement Company

SALES OFFICE: BROWN-MARX BLDG., BIRMINGHAM, ALA.

WORKS: LEEDS, ALABAMA

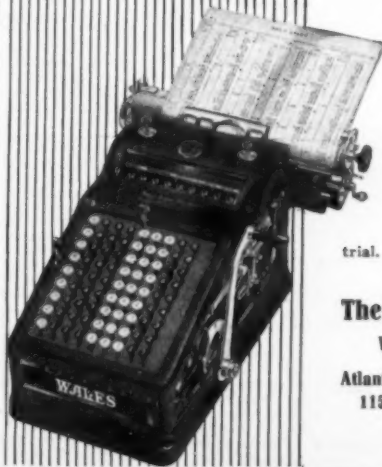
Write for Prices.



Sold After Competitive Tests

97 out of every 100 WALES Visible Adding and Listing Machines are sold after rigid competitive tests. For instance: Sears, Roebuck & Co. of Chicago compared the WALES, point by point, with every other adding machine. They were so strongly convinced they purchased WALES machines to the value of \$22,875. This is the largest order ever given for adding machines to be used in one office.

WALES Visible Adding Machine



On the WALES all the work is in plain view. This means accuracy, increased speed, greater comfort for the operator—no bending forward or backward.

FIVE-YEAR GUARANTEE

The WALES is the only adding machine on the market guaranteed five years. This, in itself, is undeniable proof of WALES durable construction.

FREE TRIAL

Tell us what your business is, and let us send you a WALES for free trial. No expense to you—no obligation.

Mail Coupon NOW

The Adder Machine Co.

WILKES-BARRE, PA.

Atlanta Office:

115 N. Pryor St.

Pin
Coupon
to your
Letterhead

Send particu-
lars of your free
trial offer and
booklet describing
the WALES Visible.

Name.....
Address.....
Business.....
Mfrs. Record 8-3-11.

Classified Opportunities

MEN WANTED

WANTED—Agents to sell automobile specialty which every auto owner needs; quick seller; big profits; particulars free. D. Wilkinson, Fair, Ala.

WANTED—Traveling or local men; all sections of the country; profitable side line; commission or salary; good men average \$100 weekly. For particulars address The Sun Chemical Company, Richmond, Va.

SALESMEN—To sell high-grade driers and paint oil on commission basis. State territory. Address Box 135, Collinwood, Ohio.

LEATHER BELTING MANUFACTURERS of established reputation about to widen territory want salesmen of record and experience in Central and Southern States; one whose trade is with jobbers preferred; good opening for the man who can deliver. Address "Belting," care Manufacturers Record.

HAVE you had experience in the sale or operation of gas or gasoline engines? We want a live dealer in your county. Full protection will be given. Write for our proposition and catalogue No. 25, which illustrates Otto engines from 1 to 300 H. P. The Otto Gas Engine Works, 3221 Walnut street, Philadelphia, Pa.

SALESMAN WANTED—The manufacturer of a well-known line of concrete mixers wants a hustling man to handle their product in the South on a commission basis. To a man with experience in this line this is a fine opportunity. Address No. 823, care Manufacturers Record.

WANTED—Real salesmen acquainted with building and contract work to handle concrete mixers. The American is a batch mixer giving a perfect mix either wet or dry. It is sold under a liberal commission arrangement without requiring any financial investment by the agent. A good seller in other sections and should prove attractive in the South with pushing. Address Cargill Mfg. Co., 567 Buttes Ave., Columbus, O.

WANTED—Superintendent, about 30 to 35 years of age, for ornamental and structural iron works; must have initiative and push; state age, experience and salary; also give references as to character and ability. Address No. 816, care Manufacturers Record.

WANTED—A reliable man in every county to sell our specialties: cotton choppers, field fence machines, power fence machines, feed grinders. We give exclusive contract where by agents can make thousands of dollars per year. Weisenborn Manufacturing Co., Houston, Texas.

WANTED—To correspond with young man who understands manufacturing baby carriages. Address Cleveland Commercial Club, Shelby, N. C.

AGENTS wanted to handle established steam specialty which is known all over the country; can be handled with non-conflicting specialties; will give exclusive agency only for amount of territory actually covered by agent of his salesmen in the following States: Virginia, North Carolina, South Carolina, Oklahoma, Wyoming, Georgia, Arizona, New Mexico, Montana, Idaho, Florida, Arkansas, North Dakota, South Dakota. Address Postoffice Box 1754, Pittsburg, Pa.

WANTED—High-grade experienced electrical supply salesman; give references, stating age, experience and salary expected. Address Jobber, P. O. Box 291, New Orleans, La.

AGENTS WANTED to sell lubricating oils, belts, hose, paint, varnish, to contractors, auto owners, mills, factories, etc. Exclusive territory to right party. Oil experience unnecessary. Manufacturers' Oil & Grease Co., Cleveland, Ohio.

A RICHMOND CORPORATION extensively marketing a production in use for seven years without competition, and a great seller, wants managers who can handle subagents; small investment necessary for exclusive rights to counties or whole States of Georgia, Tennessee, Virginia, Carolinas, Florida, Alabama, Louisiana, Texas. Proposition good for \$5000 to \$10,000 per year. Southern Spray Co., Richmond, Virginia.

AGENCIES WANTED

MANUFACTURER'S AGENT, with office centrally located in hardware jobbing district, Boston, Mass., would represent some first-class manufacturer of hardware or mill specialty line in this territory. Edward Wilbur, 125 Summer street, Boston, Mass.

HELP WANTED

WANTED—SUPERINTENDENT for foundry and machine shop who can invest \$2000 and take management of business at good salary; fine trade already established. For further information address No. 827, care Manufacturers Record.

SITUATIONS WANTED

AN erection, stationary, locomotive engineer and machinist wants a situation with some large lumber company or some city plant; have had 18 years' experience and can furnish best of references. A. G. Lordley, Chattahoochee, Fla.

Rate 20 cents per line per insertion. Minimum space accepted, four lines. Maximum space accepted, 24 lines. Allow seven words per line. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year, as follows: 100 lines, 18c. per line; 300 lines 16c. per line; 500 lines or more, 15c. per line.

YOUNG MAN (23), four years' experience with manufacturing concerns in both clerical and engineering capacities, engineering graduate, wishes clerical position manufacturing concern. Address No. 826, care Manufacturers Record.

WANTED—Position as draftsman, estimator and general office man in general contractor's office; young man; have had experience and can furnish references. Address No. 821, care Manufacturers Record.

WANTED—Young man, 26 years old, unmarried, 4 years' experience in office of general counsel of large railroad company, desires position of chief clerk or assistant in executive department of railroad or industrial company; at present employed, but desires change account personal reasons. Address No. 822, care Manufacturers Record.

EDUCATIONAL

RENSSELAER POLYTECHNIC INSTITUTE, TROY, N. Y.—Courses in Civil, Mechanical and Electrical Engineering, and General Science, leading to the degrees of Civil Engineer (C.E.), Mechanical Engineer (M.E.), Electrical Engineer (E.E.), and Bachelor of Science (B.S.). Special courses in engineering and science. Splendidly equipped new engineering laboratories. Send for catalogues to Registrar.

BANKS

COMMERCIAL STATE BANK, Birmingham, Ala. State depository. Prompt attention to Alabama collections.

THE PALMETTO NATIONAL BANK, Columbia, S. C., capital \$250,000, solicits accounts of banks, firms, corporations and individuals, either commercial or savings accounts.

BUSINESS OPPORTUNITIES

SOAPSTONE FOR SALE—Majority interest in quarry and machinery; quality of stone is good and plant is nearly new. Address No. 819, care Manufacturers Record.

INVESTMENTS—FARMING—HOUSTON—YOUR OWN WELFARE—If you are interested in either of these, kindly send ten cents for a copy of the Practical Farmer. It will astonish you. It will give you pointers on the best, safest and easiest investment in the United States today. H. S. Taylor, Scanlan Bldg., Houston, Texas.

MANUFACTURERS producing articles of merit suitable for the mail-order trade will please send information and catalogues to Box 44, Jacksonville, Fla.

FOR SALE—Controlling interest in patent for lock joint for cotton ties; great opportunity for someone with money to operate plant of this kind in the South; has been tried and works well; big demand for the product; big profit; old cotton ties spliced and made new. For particulars write National Manufacturing Co., Social Circle, Ga., P. O. Box 153.

I WILL TURN OVER to any reliable machine-manufacturing concern full and complete plans, blueprints, patent (13 years yet to run), stock on hand (inventory \$4000), electrotypes, advertising matter, etc., etc., pertaining to an amusement riding device which has been manufactured and sold and successfully operated, earning as high as \$175 in seven hours, provided such company will take over the above and will agree to manufacture, advertise and sell the product, paying me 25 per cent. of the net profits. For further particulars address A. W. Brown, Enterprise, Florida.

DAVIS, SWANN & GORDON, San Antonio, Texas, General Brokers, will entertain offer for exclusive agency of reliable manufacturers. We are located in the fastest growing district of the Southwest; will have large quantities of cotton-tie clippings for sale, also brewers' rice, compress patches, bagging and ties. References.

A PROFITABLE BUSINESS OFFER—The manufacture of marble lumber, a fire-proof product for wainscot, door and window trim, base, moldings, table tops; bank, store and bar counters; shelving, fireplace facings, mantels, etc.; no machinery required; molds inexpensive; has the appearance, coloring, veining, etc., of natural marble; takes a mirror-like surface direct from the molds; is somewhat elastic; can be sawed and nailed like lumber, or set with nickel-plated screws or with plaster; can be made at a cost to compete with finished hardwood trim, and commands approximately double prices; can be made as soft as hardwood or harder than natural marble for flooring purposes. Exclusive manufacturing formulas, rights and territory granted responsible parties, general contractors, boards of trade or capitalists. Investigation solicited. Working demonstrations given and purchasers equipped to do good work at our private laboratory. For particulars address Art Stone Co., Waynesboro, Pa., Box 307.

FOR SALE—New City Hotel at Winnfield, La.; 3-story; brick; 60 rooms; doing big business; will net \$550 to \$650 per month; \$20,000 down; balance, \$30,000, 10 years' time, 6 per cent. interest. Write H. E. Lancaster, Yoakum, Texas.

FACTORIES LOCATED, factory buildings in the principal cities to rent, factories, saw-mills, flour mills, warehouses, real and personal property sold or exchanged. Timber, grazing and farm lands sold or exchanged. Properties cared for, rents collected. Office space, desk rooms and Chicago addresses arranged for. High-class manufacturing stocks and bonds for sale and exchange. Offer what you wish to sell, inquire for what you wish to buy. Negotiations confidential. Business promptly executed. Correspondence invited. Kreis & Company, 167 W. Washington street, Chicago, Ill.

MONEY WANTED

WANTED—\$25,000, ten years; first mortgage 1000 acres improved real estate; interest payable annually. Write for particulars. People's Trust Co., Blacksburg, S. C.

MAPS AND BLUE PRINTS

MAPS OF TEXAS COUNTIES—We make blueprint maps of nearly all Texas counties and several Louisiana parishes. Write for prices on those desired. Singleton Bryan & Co., Beaumont, Texas.

TYPEWRITERS

IF you are interested in purchasing a high-grade typewriter and do not care to invest \$100 asked by the manufacturer, we would like you to investigate our remanufactured machines. Enterprise Exchange, Inc., 609 E. Baltimore St., Baltimore, Maryland.

FACTORY SITES

FOR SALE—2400 feet water front just beyond city limits on Elizabeth River; suitable for docks and manufacturing. Price \$75,000 if sold within sixty days. Jos. A. Wallace & Co., 221 Berkley Ave., Norfolk, Va.

FREE SITES and other liberal assistance; cheap fuel; natural gas, oil, coal and abundant water; six railroads. Address Chamber of Commerce, Wichita Falls, Texas.

INDUSTRIES WANTED

BRICK PLANT

COLEMAN, TEXAS, wants a brick plant; has an unlimited supply of the finest material, with cheap labor and fuel, with an unlimited market for the output in an unoccupied territory. Coleman Commercial Club.

HOTEL

COLEMAN, TEXAS, a hustling town of five thousand, located on the main line of the Santa Fe, in the best and richest section of Texas, wants a first-class modern hotel of about fifty rooms; a two-fifty per day house. An excellent opportunity for someone to get a good thing. Coleman Commercial Club.

FURNITURE FACTORY

A FURNITURE FACTORY established in Norton, Va., will have, without competition, a very large market, and will also be in the midst of all raw materials used. Fuel coal at the actual cost of production. We want one badly. Write Norton Board of Trade, Norton, Va.

MISCELLANEOUS

CAPITAL FOR MANUFACTURING PLANTS—We will take liberal stock in manufacturing plants located in Oxford, N. C.; active support to all worthy propositions. Ask for particulars as to desirability of location. Confidential inquiries solicited. Granville Real Estate & Trust Co., A. H. Powell, President, Oxford, N. C.

CLEVELAND, TENN., WANTS YOU—The best town in the Southeast, with a hydro-electric development of 32,000 initial horsepower for manufacturing purposes, final development 82,000 horsepower. Free manufacturing sites; exemption from city and county taxes; ample railroad facilities; spring water pumped to all parts of the city; cheap raw materials; 186 miles of pike roads in county; fine farming and trucking section; best of public utilities; cheap white labor; cheap power; ideal location for cotton mill, furniture factory and brick-manufacturing plant; good climate; most rapidly developing city in the Southeast. Write Commercial Club, Cleveland, Tennessee.

SUFFOLK—The best manufacturing and distributing point in Virginia; six railroads and water transportation; plenty of labor; cheap fuel; electric power; seventy manufacturing plants in successful operation; opportunity for furniture and woodworking plants and any wholesale, jobbing or manufacturing business; center of tidewater; richest farming section to be found; healthy; excellent schools and churches; filtered water, gas and sewer. Write Board of Trade, Suffolk, Va.

"BUSIEST AND BEST BUILT CITY IN TEXAS", Wichita Falls possesses unsurpassed natural resources and advantages. Offers exceptional opportunities for investors; free sites for manufacturing establishments; cheap fuel; natural gas, oil, coal, electricity and abundant water from the largest body of water in Texas; six railroads; raw material at hand; latest approved public utilities; crescented wood block pavement throughout business section; over fifty miles concrete sidewalks. Most rapidly developing city in Southwest. Handsome booklet and detailed information upon request. Address: Chamber of Commerce, Wichita Falls, Texas.

ASHEVILLE, N. C.—Delightful all-year-round climate; center of hardwood forests of Southeast; abundant hydro-electric power; 31,000 population; 40 miles paved streets; cheap, reliable labor; wants spoke and handle factory; furniture factory; wagon factory. Also wants man with some capital to invest in established manufacturing enterprise with services. Write Board of Trade, Asheville, N. C.

VICTORIA, TEXAS, head of navigation of Guadalupe River; center of cotton, corn, truck and citrus fruit-growing district of South Texas; country rapidly developing; opportunities for many industries. If interested in the coastal section of Texas, write for booklet "D" to the Secretary of the Progressive League.

MILLEDGEVILLE needs you, but you need Milledgeville more. This city is at the head of navigation on the Oconee River, in the heart of thousands of acres of virgin hardwood forests and kaolin mines; bale of cotton and hundred bushels of corn to the acre land surround us; largest female college in Georgia, and excellent military preparatory school; home of State Insane Asylum, largest institution of its kind in America, employing 1500 attendants; plenty of water-power, electric lights and splendid freight rates; unsurpassed opportunities for stove foundries, paper mills, furniture factories and woodworking plants of all kinds. For information write Young Men's Business League, Milledgeville, Georgia.

INDUSTRIAL PLANTS FOR SALE

BAND MILL

COTTONWOOD AND BAND MILL PROPOSITION—We are offering for sale our entire plant, consisting of band mill and river equipments. An ideal cottonwood proposition, and by adding a box factory it will make one of the best locations in the South. For further information address Shreveport Cottonwood Co., Ltd., Shreveport, La.

LUMBER MANUFACTURING PLANT

FOR SALE—Complete lumber manufacturing plant, consisting of two-band saw mill, planing mill, box factory, oak-flooring plant, drydock, office, store, blacksmith shop and thirty-five dwelling-houses, besides sheds, barn, corncrib, icehouse, etc.; about forty to forty-five acres of river bottom land, exclusive of the buildings; situated at the crossing of the Kentucky River and L. & N. Railroad. Parties quitting business for private reasons and will sell at a reasonable bargain price. For full particulars address The Burt & Brabb Lbr. Co., Ford, Ky.

SOAP FACTORY

FOR SALE—Well-established soap factory (has been in existence for 18 years) in South Carolina, located in a thriving city, with good railroad and steamship facilities; factory has facilities for a large output; product sells well (laundry and toilet soap); business is going on. Correspondence and investigation solicited. On account of other business the owners cannot give their personal attention. This is a good opportunity for capable parties to secure a good-paying business. Address J. Hepier, 601 King street, Charleston, S. C.

ROLLER MILL

ROLLER MILL at Imboden, Arkansas, Lawrence county, for sale or trade, or will give terms. This mill is in a splendid location for business. Write Robert L. Kalk, Cordell, Okla.

HANDLE FACTORY

HANDLE FACTORY FOR SALE—Location, Southwest Virginia; equipment, new machinery and boiler; good buildings; about one acre of land; railroad siding; timber for operation of plant located nearby and good markets for output; plenty of labor at low prices; price \$3000; reasonable terms. For further information address File M-527, F. H. LaBaume, A. and I. Agent, N. & W. Ry., Roanoke, Va.

Classified Opportunities

COTTON MILL

FOR SALE—A modern, up-to-date cotton mill, located in Northeast Georgia; 7400 spindles; in first-class condition, ready to operate. For further particulars address Dixie Land & Investment Co., 16 Steiner Bldg., Birmingham, Ala.

AGRICULTURAL IMPLEMENT FACTORY

FOR SALE—A well-known and thoroughly established agricultural implement business of thirty years' standing, netting about \$25,000 annually and safely situated in central Ohio. Price about \$110,000, depending on inventory. Specially desirable for young man to develop and increase by energy and judgment. Apply Leonidas B. Boyd, 103 Reynolds Bldg., Gary, Ind.

SOAPSTONE QUARRY

SOAPSTONE QUARRY AND MACHINERY FOR SALE—Quarry of good soapstone with ledge over 100 feet wide, located in Virginia, and equipped with machinery for preparing blocks, slabs, laundry tubs, etc. Address No. 818, care Manufacturers Record.

WOOD MILL

ONE practically new wood mill, ready for operation, in DeFuniak Springs, Fla., consisting of 8 H. P. gasoline engine, drag saw, circular saw, wood conveyor chain and double steel wood splitter; for cash or reasonable terms; splendid opportunity. William W. Flournoy, DeFuniak Springs, Fla.

BRICK PLANT

BRICK PLANT FOR SALE—Modern, up-to-date brick plant in Georgia, now in operation, making 25,000 common building brick per day; only one in this locality; complete set of grinding machinery, 75 H. P. engine, steam drier, plenty of clay, labor, wood, etc.; best of reasons for selling; good proposition for a live man who can give it his time. Address No. 806, care Manufacturers Record.

NOVELTY WORKS

NOVELTY WORKS FOR SALE OR LEASE. Completely equipped, ready to begin work; labor and material cheap; only factory in South making metal-wheel toys; enough material on hand and in process of manufacture to pay price of property; contains fine lot of special machinery for this business; reason for selling, other business; is a good-paying proposition. For particulars address T. H. Vanderford, Salisbury, N. C.

COFFIN AND CASKET HARDWARE

FOR SALE—Coffin and casket hardware plant, or will sell all machinery separately; as good as day bought; not in use over three months; best reason for sale. For full particulars address E. E. Stallings, Enfield, North Carolina.

PHOSPHATE PLANTS

VALUABLE PHOSPHATE TRACT.—Wanted—To sell or lease on royalty, valuable tract phosphate land, containing 200 acres; located on railroad in heart of Tennessee phosphate field; estimated to contain over 300,000 tons high-grade rock; fully equipped plant ready for operation; capacity, 150 tons per day; owners not phosphate men and active in other business. Best opportunity in the phosphate field for right man with small capital. Address No. 828, care Manufacturers Record.

FOR SALE—VALUABLE PHOSPHATE PROPERTY, located in Florida, consisting of 1000 acres in fee and 640 acres leased on royalty; 400,000 to 500,000 tons accessible mining high-grade phosphate; three standard plants in operation. Good reasons for selling. For price and particulars address Dixie Land & Investment Co., 16 Steiner Bldg., Birmingham, Ala.

MANUFACTURING PLANT

GREAT Central Chicago district; small plant; about 65,000 square feet land on Belt Line; brick and concrete buildings; about 14,000 square feet. Address C. L. Hartwell, Chicago Heights, Ill.

TIMBER ESTIMATOR

TIMBER ESTIMATES—LOW COST.—Any timber tract in South Atlantic or mountain States will be estimated at lowest cost. Method used is new and shows details that can be checked. Accuracy guaranteed. Send for sample report explaining method. A preliminary estimate may save you useless expense. C. A. Divine, Franklin, N. C.

REAL ESTATE, MINERAL AND TIMBER LANDS, WATER-POWERS, ETC.

\$50,000,000 IN THREE YEARS.—Invest in Washington real estate. As the nation grows so must its capital city develop. The increased value of Washington real estate in the past three years was approximately \$50,000,000. Did a portion of this represent your profits? We are now placing on the market one of the best-located subdivisions in the choice northwest section, fronting one mile on Sixteenth street, and overlooking the National Rock Creek Park. The future of this section will make this the best investment in the suburbs of the national capital. For plot and full information apply to Robert E. Heater, 411-413 Colorado Building, Washington, D. C.

FACTORY SITES, Business Property, Residences and Farms. If interested in the metropolis of the Southwest or its territory, write for free land list and booklet on Houston, Texas (where 17 railroads meet the sea), or make your wants known. Bank references if desired. Central Land Co., 303 Theater Bldg., Houston, Texas.

SHIP CHANNEL FRONTAGE.—1800 acres fine black prairie land between Houston and the bay, fronting 1½ miles on Houston Ship Channel; small amount of beautiful timber along water frontage; high banks; Southern Pacific Railroad and Houston-Bay Shore shell road through south edge of property; railroad station on land; high and well drained; beautiful factory or residence townsite; strictly first class in every particular. Address Dr. C. S. Preston, 1907 Scanlan Bldg., Houston, Texas.

BEAUTIFUL LAKE BUTLER LOTS are offered for a limited time on special terms. Until September 1, 1911, we offer a 10-acre lot on Lake Butler Heights (Tarpon Springs section) for \$25 as first payment, and if purchaser dies before purchase payments are completed, will give to his heirs or assign a warranty deed for lot absolutely free. If you want a bargain and a home in the most desirable part of Florida, write now for particulars and reservation. Tampa & Tarpon Springs Land Co., Tampa, Florida.

MINERAL LAND FOR SALE

WE ARE IN CONTROL, fee delivery (titles perfect), of large boundaries in Tennessee coal, iron and mineral belt. Surveys 70,000 to 90,000 acres, convenient to transportation, having on it and near all the raw material needed for manufacturing purposes, good bituminous, domestic and coke-making coal; veins show large average tonnage per acre and easy mining cut, and abundance of high-grade iron ores. These valuable holdings can be delivered at comparatively low figures, one-half of what it is in reality now worth, to genuine buyers who can show ratings or bank references to warrant the ability to promptly take over these lands. None but principals need reply. Open bargain to direct buyers. Address J. C. Lindley, Greensboro, N. C.

TIMBER LAND FOR SALE

2300 ACRES cypress timber land, containing about 15,000,000 feet timber, on navigable river and crossed by two railroads; \$30,000. C. N. Joyce, 363 Calvert Bldg., Baltimore, Md.

10,000 ACRES of choice long-leaf yellow-pine timber and lands at \$12.50 per acre that will average 5000 feet; it's on and near Y. & M. V. Railroad. J. C. Ford, Summit, Miss.

SOUTHERN TIMBER LANDS.—Large tracts of pine, cypress and hardwood all over the South. James & Colby, Galveston, Texas.

35,000 ACRES virgin hardwood timber land, located in S. E. Ark., between the Miss. and White Rivers; railroad through land; about 324,290,000 feet; estimate upon request. Price \$12.50 per acre; terms, one-third cash.

14,750 acres Arkansas cut-over timber land; \$3.50 per acre; terms, one-third cash. Robert Sessions, Winthrop, Ark.

2000-ACRE BARGAIN—HARDWOOD TIMBER.—Rich bottom land, East Texas; fine proposition for a sawmill; two railroads; switch on land; near town; need money quick; sacrifice; no trade. J. L. Farley, owner, DeSoto, Mo.

WRITE ANDREW J. BETHEA, attorney-at-law, Columbia, S. C., about 1000 acres of virgin timber, fourteen to eighteen million feet, carefully estimated. Superb variety of beautiful rosemary pine, cypress, oak and other hardwood. Two miles from Southern Railway in the midst of fine timber belt. Easily accessible for manufacturing and shipping purposes. Will sell in bulk at reasonable price.

CUT-OVER TIMBER LANDS

CUT-OVER TIMBER TRACTS.
50,000 acres cut-over pine lands, Miss. \$6.50
30,000 acres cut-over pine lands, La. 4.00
75,000 acres cut-over pine lands, Tex. 4.00
18,000 acres cut-over hardwoods, La. 4.50

Marsh Lands for Reclamation.
60,000 acres in a body, Gulf Coast of La. 3.00
Timber Lands.

20,000 acres L. L. Y. pine, Fla., cut 3500 ft. 7.00
15,000 acres L. L. Y. pine, Ala., cut 7000 ft. 21.00
30,000 acres hardwood, cut 10,000 ft. (60% red gum) 10.00
Finest red gum proposition South.

Wm. R. Taylor, 508 Perrin Bldg., New Orleans, La.

TIMBER FOR SALE

I OWN about 4,000,000 cottonwood and 1,000,000 feet ash, all on 1070 acres near Lepanto, Ark., one and one-half miles from Frisco Railway; 3½c. rate to Memphis; can be contracted on cars reasonably. Also 2,600,000 feet gum on tract besides elm, cypress, hickory, etc. Have about four years' time to get off. Will sell for \$22,500 cash or reasonable terms to good people. This is a good proposition. Should net a profit of \$25,000 as a logging proposition. Alex. Berger, Jonesboro, Ark.

VALUABLE TIMBER FOR SALE.—8,000,000 feet original slash and second-growth pine timber on Durham & Southern Railroad, 2½ miles from Apex, N. C.; also 3,500,000 feet on S. A. L. Railroad, 2 miles south of Apex. A. C. Hughes & Co., Apex, N. C.

FOR SALE—Timber on about 4000 acres cut-over land near Scranton, Miss.; stumps for turpentine purposes, also down timber for cross-ties, fence post, etc.; fine charcoal proposition. Address Kracke & Flanders, New Orleans, La.

FARM AND TIMBER LANDS

FOR SALE—Large and small plantations in the rich Red River Valley, cheap and on easy terms; also large tract of hardwood. Apply to E. J. lies, Alexandria, Louisiana.

1000 ACRES in the heart of Virginia for sale at \$5 per acre. This body of land has every natural advantage. Soil rich and well watered. One-third improved; balance in good timber. Only 8 miles from flourishing town and railroad center.

400 acres in Buckingham county, within 2 miles of railroad and large trading point. While this tract has no buildings, it is very rich, practically level and free from stones. One-fourth improved land; balance in good timber. Would make one of the best farms in the State. \$5 acre.

Buckingham Investment Co., Dillwyn, Va.

663 ACRES fine East Texas red sandy loam hammock and dark chocolate creek bottom land for sale direct from owner at \$12 per acre; right on railroad, with switch and shipping point; part open land; plenty of everlasting water; plenty good hardwood timber for all purposes; complete abstract of title. Chas. Popp, Platt, Tex.

I HAVE BARGAINS IN TIMBER TRACTS, large colonization propositions, cut-over lands and reclamation tracts in any size wanted up to 150,000 acres from \$2.50 per acre up.

Wm. R. Taylor, Land and Timber Investments, 508 Perrin Building, New Orleans, La. Established 1898. Sales over \$6,000,000.

COTTON LAND WANTED

WANTED—TO BUY 3000 ACRES OF COTTON LANDS.—I have clients who are in the market for from 1000 to 3000 acres of cotton lands. The total acreage in one tract is preferred. Must be south of the Ohio and east of the Mississippi Rivers. Write, giving location, price, terms and full details and particulars. Only high-grade cotton land at a bargain wanted. Prefer to deal only with principals. Address H. C. Brown, care of 821 James Bldg., Chattanooga, Tenn.

COLONIZATION LANDS

IN SOUTHEAST GEORGIA.—Colony farming tract of 28,000 acres of good farming lands within 27 miles of Jacksonville, Florida, on railroad; will readily sell in small farms from \$20 to \$30 per acre. Price \$4 per acre. Write Wm. Nussbaum, Jacksonville, Florida.

TRACT FOR COLONIZATION.—12,000 acres in Lavaca and Jackson counties, Texas; 95 per cent. tillable; black waxy and black sandy land. On both sides of Lavaca River. Numerous settlements and good wells of water on tract; all subdivided and ready for colonizing. Will give good terms on this tract. Emil Locke, No. 712-13 Gibbs Bldg., San Antonio, Tex.

HOME AND FARM DEVELOPMENT LANDS.—27,000 acres of land in North Carolina, well adapted to colonization purposes or to development as a farming proposition. Lies on both sides of the S. A. L. Ry. Contains large area of famous Hoffman sandy loam type of soil, which readily responds to intensive methods of cultivation and returns enormous yields of cotton, corn and truck. 98 per cent. can be brought into cultivation. Fine water and healthful climate. Address W. P. McRae, Rockingham, N. C., or P. C. Whitlock, Charlotte, N. C.

20,000 ACRES of well-drained alluvial land in Point Coupee parish, La., one-half of which is good hardwood timber land; two railroads cross the property; this is a very attractive colonization proposition; \$15 per acre. 60,000 acres of land in parishes of Iberville and St. Martin; \$5 per acre if taken at once; an exceptional bargain. Write for particulars. E. L. Page, 618 Whitney-Central Bldg., New Orleans, La.

FARMS AND TRUCK LANDS

FOR QUICK LOW SALE.—Sixteen thousand acres, Chesterfield county, South Carolina; cotton, vegetables, fruits, etc.; undeveloped; great bargain. Address W. S. Blakeney, Monroe, N. C.

FLORIDA FARMS ARE FORTUNES.—Our soil similar to fertile sections Iowa, Missouri; easy-payment plan. Write for booklet. Milton Land & Investment Co., Marianna, Fla.

TEXAS LANDS.—Large tracts of the celebrated Gulf Coast fruit and truck land, where crops grow and flowers bloom every month in the year. James & Colby, Galveston, Texas.

FOR SALE.—23½ acres prairie land, located on Santa Fe Railroad and on public road (shelved) only 13 miles from Beaumont and one-quarter mile from Fannett; suitable for general farming or for subdividing into smaller tracts. Title perfect. Price \$27.50 per acre. Also other lands suitable for subdivision. Texas Realty Co., Beaumont, Texas.

TWO choice farm and orchard propositions in the Shenandoah Valley, Va. First consists of 160 acres choice fruit land, 54 acres covered with orchard. This farm comprises some of the best fruit land in Virginia. Full particulars in regard to this bargain on application. Price \$16,000. The other consists of 90 acres, 14 of which are in fruit, 8 acres three-year-old trees, 6 acres eight-year-old; varieties, Ben Davis, Black Twig, Winesap, York Imperials. Price \$10,000. Both of these places have good buildings and convenient to railroad, and will bear investigation. McClure-Davenport-Taylor Company, Inc., Richmond, Virginia.

SOUTH TEXAS ORANGE, FIG, POTATO, CORN AND COTTON LAND.—We offer 254 acres of the best improved potato, corn and cotton land in South Texas, near Houston, for \$30 per acre. Will sell for \$300 per acre inside of five years. This land will pay a big dividend on that price now.

1700 acres, all prairie, orange, fig and garden land, perfect drainage, between Houston and Galveston. Will sell as a whole or in 10-acre tracts, or as much as you can handle, on very easy terms. Send for our literature and let us know what size tract of land you wish to buy. L. Bryan & Co., Houston, Tex.

PECOS PALISADES LANDS.—Ranch and irrigated lands in lower Pecos Valley. S. L. ESTES, 405 North Texas Building, Dallas, Texas.

IN THE HEART OF THE GREATEST DEVELOPMENTS.—1200 acres rich dark sandy loam, very deep, clay subsoil, in Dimmit county, in the "proven artesian belt" of Southwest Texas. Big flowing wells on adjoining properties. This land is near the famous Cross S Ranch; adjoining lands selling \$40 to \$60 per acre. For quick sale, \$27.50; on terms. Engle Bros., 412 Gibbs Bldg., San Antonio, Tex.

1200 ACRES in the famous Toyah Valley, Reeves Co., near Saragosa; subject to irrigation; abundance of water; \$10 per acre; the biggest bargain in Texas; adjoining lands selling for \$80. Jordan & McMillan, 102 S. Foydras St., Dallas, Texas.

GREAT HOUSTON (Population over 100,000).—Just twelve miles out on Main street (Houston's \$200,000,000 thoroughfare) is located North Houston Gardens; 10-acre tracts only \$400; terms, \$25 cash, balance \$15 per month, no interest; 5-acre tracts, \$400; terms \$15 cash, balance \$7.50 per month, no interest; 142-acre improved farm 50 miles from Houston, price \$25 per acre. H. S. Taylor, Scanlan Bldg., Houston, Texas, Member Houston Real Estate Exchange and the Texas Realty Association.

THE FRIO VALLEY WINTER GARDENS, La Salle county, Southwest Texas, a colony of 100,000 acres level rich black sandy loam in famous artesian belt; grow oranges, figs, Bermuda onions. We are opening Fowlerton, a new town on new railroad in heart of the colony. Guaranteed improvements on townsite. A 10-acre farm and free residence lot on terms of \$15 cash; balance \$10 monthly. Write for booklet A, prices, plats, etc. Fowler Brothers Land Co., Frost Building, San Antonio, Texas.

YOU SHOULD JOIN US in owning a Texas Bermuda onion farm. We are developing 500 acres of the best onion land in Texas. 3 acres of our land made \$1800 profit. Co-operation with us means wealth. You cannot lose. All land irrigated from artesian wells. No water troubles. One hundred acres in each farm. 100 shares per farm. \$150 per share, monthly payments of \$5 per acre. Let us send you particulars. Zavala Onion Farms Company, Gibbs Building, San Antonio, Texas.

IRRIGATED LANDS.—Parties in the North, East and Middle West interested in improved and unimproved irrigated lands and ranch property in the great Pecos section, communicate with us. Pawkett & Davis, Pecos, Tex.

BARGAIN IN SOUTH GEORGIA FARM. Following described farm can be bought for \$35 per acre on reasonable terms; 502-acre tract; 1500 acres in high state of cultivation; two new houses, one 8-room and one 7-room; 24 new 4-room houses; 30 2-room houses; barn 60x150 feet, with L 50x110; grain crib 24x35; three large tool and implement sheds; 12 smaller barns; one new storehouse 24x40; cotton gin, two 70-saws, with 30 H. P. engine and boiler; total of 75 buildings; artesian well and large tank with gasoline pumping plant; 15 miles wire fence; two pastures, 500 acres each; five-acre fishpond, well stocked; turpentine lease now producing \$1500 per month; 800 acres cotton; 100 acres oats this year; balance of cleared land in corn, sugarcane and potatoes; soil is exceptionally fertile, Tifton loam; ideal for large stock farm, subdivision or rich man's farm; two miles from G. S. & F. and A. B. & A. railroads, with local road through place; two miles of the National Highway. McLendon Bros., 14 Auburn Ave., Atlanta, Ga.

IMPROVED STOCK, fruit, poultry, grass and grain farm, 360 acres, in healthy and productive Osark foothills of Northern Arkansas; \$25 per acre; fine spring and cold clear running water. W. D. Taylor, 60 South Front St., Memphis, Tenn.

REAL ESTATE FOR SALE.—Improved farm lands in finest farm section of Florida; 40 to 400 acres in a body at \$10 per acre; paying investment; abstract of title furnished. Apply to S. S. Sandford, Jasper, Fla.

Classified Opportunities

[CONTINUED FROM PAGES 94 AND 95.]

FARM AND TRUCK LANDS

VIRGINIA AND MARYLAND high-class water-front property on the famous Eastern Shore of Maryland, also on the Chesapeake Bay in Virginia, and farms in all the Piedmont section; many bearing commercial apple orchards in the mountains of Virginia. Send for Catalogue S. Southern Farm Agency, 721 Main St., Lynchburg, Va.

JAS. GOODE REAL ESTATE CO., ranch and irrigated lands. Office, Orient Hotel, Pecos, Tex.

SONORA (MEX.) LANDS,—170,000 acres, high percentage agricultural; surveyed; in actual judicial possession under perfect title by American owners, this city; delivery certain without delay; no trades; price \$1.25 per acre; 1/2 cash; balance one and two years at 6%; report; blueprints. Ask the C. E. Way Land Co. Sales Agents, Frost Bldg., San Antonio, Tex.

MR. INVESTOR, TAKE NOTICE! 13,000 acres of valley land; five miles fringing on bold, beautiful flowing river; all fine agricultural land; in strong flowing artesian belt, not far from railroad south of San Antonio. The finest big body of cheap land left in South Texas. As fine as silk. Price \$13 per acre; easy terms, with release clauses for subdividing. Wire or write us at once. Kullenberg Realty Company, 902 Gibbs Bldg., San Antonio, Texas.

HOMESEEKERS,—Coleman County, Texas, offers the best inducements to the small farmer and stock raiser; the best land on earth; fine water and an ideal climate, together with cheap lands, both raw and improved. Coleman Commercial Club, Coleman, Texas.

OKLAHOMA FARM,—160 acres in Roger Mills county; good corn, wheat and broom-corn land; all can be cultivated; \$25 per acre if taken at once. H. L. DeVilliers, Cheyenne, Okla.

WHY PALMETTO LEADS,—The 800,000 boxes of fruits and early vegetables attests the superiority of soil, climate and irrigation necessary to produce such crops. The ease with which such crops are handled by rail and water make it an ideal place for fruit and vegetable growing. The Manatee River, Terra Cina and Tampa bays furnish ideal salt-water fishing, boating and bathing. For further information address The Manatee River Board of Trade, Palmetto, Florida.

PARTIES in the North, East and Middle West interested in Southeast Texas farm and truck lands and acreage property communicate with C. B. Shepard, Box 425, Beaumont, Tex.

MACHINERY AND SUPPLIES

FOR SALE—Two Browning locomotive cranes, practically new; 46-foot radius; immediate delivery; specifications furnished. Universal Construction Co., 408 Navarre Bldg., St. Louis, Mo.

WE CAN SAVE YOU MONEY,—Plate glass, store fronts, metal trimmings, metal ceilings, everything complete for your stores. For particulars write Store Front Co., Box 306, Savannah, Ga.

WANTED—Every consumer in the Southwest to know that the Texas Rolling Mill Company of Fort Worth, Texas, manufactures track spikes, track bolts, machine bolts and nuts; also standard sizes of bar iron. One hundred tons always in stock. Prompt shipments our specialty. Satisfaction guaranteed.

FINANCIAL

SAVANNAH, GA.—Real estate loans paying 6 per cent. to 7 per cent. to the investor; absolutely safe. Beautiful sites for winter homes at Vernon View, the salt-water place near Savannah on the Grand Prize Course; ideal winter climate. G. A. Mercer, Law and Real Estate, Savannah, Ga. References: Any bank or trust company in Savannah.

PROFESSIONAL

ARE YOU POSTED on twentieth-century patent searching? The engineer service separate from law practice? Read No. 2-B, inventor's Pocket Library, free for stamp. Engineer Searching Co., Fleming Bldg., Washington, D. C.

PATENT ATTORNEYS

EUGENE C. BROWN, ENGINEER and Patent Lawyer, Suite 40 Victor Bldg., Washington, D. C., Member Bar U. S. Supreme Court. Patents and Trademarks; Patent Suits for infringement. Mr. Brown is especially qualified to prosecute cases in Patent Office and patent litigation from both Engineering and Legal standpoints, having been Examiner in U. S. Patent Office for nine years. Send sketch for advice.

PATENTS OF QUALITY,—The valuable and salable kind. Send for free advisory information. Reference to clients throughout the U. S. Geo. R. Hamlin, Patent Lawyer, Inventive Age Bldg., Washington, D. C.

PATENT WHAT YOU INVENT,—Your ideas may bring you a fortune. Our free books tell what to invent and how to obtain a patent. Send sketch of invention for free opinion as to patentability. Patents obtained or fee returned. Patents advertised for sale free. H. Ellis Chandler & Co., successors to Woodward & Chandler, Suite 75 Borneo Bldg., Washington, D. C.

IDEAS WANTED,—Manufacturers are writing for patents procured through me. Send for free 72-page guide and "Stepping Stones" (containing over 200 inventions wanted). Personal services. Clients' patents sold free. Trade-marks registered. R. B. Owen, Dept. 12, Washington, D. C.

PATENT YOUR IDEAS,—\$100,000 offered for one invention, \$8500 for another; book, "How to Obtain a Patent" and "What to Invent," sent free; send rough sketch for free report as to patentability; patent obtained or fee returned. We advertise your patent for sale at our expense. Chandler & Chandler, patent attorneys, 978 F street, Washington, D. C.

PATENTS Secured or Fee Returned. Send sketch for free report as to patentability. Guide book and what to invent, with valuable list of inventions wanted, sent free; \$1,000,000 offered for one invention; \$15,000 for others. Patents secured by us advertised free in World's Progress; sample free. Victor J. Evans & Co., Washington, D. C.

PATENTS FOR SALE

WE HAVE recently secured the following patents. Address all communications to Sales Dept., Victor J. Evans & Co., Washington, D. C.: E. J. Fugere, screw stock and wrench; Wm. W. Ford, wave motor; V. L. Ellison, pneumatic water elevator; Frederick C. Britt, bean picker; Dr. T. H. Humphrey, specula; J. P. Holmes, propeller wheel; W. F. Hackney, sliding-door fastener; M. H. Haines, ventilator; J. W. Dulany, carpet sweeper; Ralph Davis, printing press; Louis J. F. Stuart, grapple; Edw. S. and Roger M. Marsh, transmission gearing for automobiles; P. Q. Miller, automatic air coupling; Clifford Kerr, wrench; Chas. E. Flynn, telephone support; Wm. C. Blaska, lighter; John W. Ballard, medical appliance; Geo. N. Abbott, glove turning machine; E. T. Maurer, spring wheel; C. A. Hunt, sash lock; John Carnot, receptacle for cuspidor; J. H. Bowling, mailbag catching and delivering device; Harvey Burns, starting device for engines; Frank Budlong, end gate fastener for wagons; Fred J. Frasier, switch.

MANUFACTURING OPPORTUNITIES,—Our Patent Bulletin contains illustrations and descriptions of valuable inventions of our clients which can be purchased outright or manufactured on royalty. Write for it. H. Ellis Chandler & Company, Suite 75 Borneo Building, Washington, D. C.

PROPOSALS

PUBLIC BUILDINGS.

CONSTRUCTION BONDS

MISCELLANEOUS.

GOVERNMENT PROPOSALS

PROPOSALS FOR STRUCTURAL-STEEL, Plate, Girders, Mangrove-Steel Castings, Locomotive and Car Springs, and Piles. Sealed proposals will be received at the office of the General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., until 10:30 A. M. August 28, 1911, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and general information relating to this Circular (No. 642) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; 614 Whitney-Central Building, New Orleans, La., and 1086 North Point Street, San Francisco, Cal.; also from the U. S. Engineer Offices in the following cities: Seattle, Wash.; Los Angeles, Cal.; Baltimore, Md.; Philadelphia, Pa.; Pittsburgh, Pa.; Boston, Mass.; Buffalo, N. Y.; Cleveland, Ohio; Cincinnati, Ohio; Chicago, Ill.; St. Louis, Mo.; Detroit, Mich.; Milwaukee, Wis.; St. Paul, Minn.; Chattanooga, Tenn.; Louisville, Ky.; Mobile, Ala., and Galveston, Tex.; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill., and Chamber of Commerce and Board of Trade, Tacoma, Wash. F. C. BOGGS, Major, Corps of Engineers, U. S. A., General Purchasing Officer.

DEPARTMENT OF THE INTERIOR, Washington, D. C., July 19, 1911. Sealed proposals in duplicate will be received at the Department until two o'clock P. M. Friday, September 15, 1911, for the erection and completion of a brick dwelling on the south side of Hot Springs Mountain Reservation, Hot Springs, Arkansas, in accordance with drawings and specifications to be had on application to this Department. Bidders are invited to attend. One set of plans and specifications will be found in the office of the Superintendent of the Hot Springs Reservation at Hot Springs, Arkansas, where they may be inspected by interested parties. Applicants for plans and specifications will be required to submit with their applications for same a certified check for \$25, payable to the Secretary of the Interior, as a guarantee for the return of the plans in good condition. The right is reserved to reject any or all bids, waive technical defects, and accept one part and reject the other, as the interests of the Government may require. Proposals must be marked "Proposals for brick dwelling, Hot Springs, Arkansas," be securely enveloped, and addressed to the Secretary of the Interior, Washington, D. C. CARMEL A. THOMPSON, Assistant Secretary.

WAR DEPARTMENT, U. S. Engineer Office, Montgomery, Ala., July 24, 1911. Sealed proposals for filling at Fort Pickens, Florida, will be received at this office until one o'clock P. M. August 24, 1911, and then publicly opened. Information on application. G. D. FITCH, Lt.-Col., Engrs.

U. S. ENGINEER OFFICE, Jacksonville, Fla., July 3, 1911. Sealed proposals for dredging at Trout Creek cut and constructing shore revetment, St. Johns River, Fla., will be received at this office until 12 M. August 3, 1911, and then publicly opened. Information on application. GEO. R. SPALDING, Capt., Engrs.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., July 28, 1911. Sealed proposals will be received at this office until 3 o'clock P. M. on the 25th day of August, 1911, and then opened, for the installation of conduit and wiring system for light and power and conduits for standard clock, telephone, bell, vault protection, fire-alarm and telegraph systems in the new U. S. Postoffice at New York, N. Y., in accordance with drawings and specifications, copies of which may be had at this office or at the office of the architects, Messrs. McKim, Mead & White, 160 Fifth Avenue, New York, N. Y., at the discretion of the Supervising Architect. Applications must be accompanied by a certified check for \$100, which will be held at this office until the return of the drawings and specifications. JAMES KNOX TAYLOR, Supervising Architect.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., July 17, 1911. Sealed proposals will be received in this office until 3 o'clock P. M. on the 30th day of August, 1911, and then opened, for the construction, complete (including plumbing, gaspiping, heating apparatus, electric conduits and wiring and lighting fixtures), of the United States Postoffice at Eufaula, Alabama, in accordance with drawings and specification, copies of which may be obtained from the Custodian of site at Eufaula, Ala., or at this office, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect.

NEW BOND OFFERINGS

Sewer and Water Bonds For Sale

Sealed bids will be received by the Mayor and City Council of the City of Ashburn, Ga., until 2 o'clock P. M. on the 10th day of August, 1911, for an issue of \$20,000 sewer and water bonds recently voted. Said bonds have been validated, bear 5 per cent. interest, and are in denominations of \$1000; mature \$1000 January 1, 1923, and \$1000 each year thereafter up to and including the year 1942. The right is reserved to reject any and all bids. Bids must be accompanied by certified check for \$250 and addressed to John J. Story, City Clerk, Ashburn, Ga.

\$12,000 5% Bonds

The town of Oxford, Alabama, offers for sale \$12,000 20-year gold bonds for construction of sewer system. Bonds recently authorized by vote and bear interest at five per cent. (5%) per year, payable semi-annually, August 10 and February 10 of each year.

Address

D. C. COOPER, Mayor.

4% County Bridge Bonds

Sealed proposals will be received by J. W. Munson, County Judge of Brazoria County, Texas, until 12 M. August 21, 1911, for 100 County Bridge Bonds, bearing 4 per cent. interest payable semi-annually. Interest and principal payable at Angleton, Texas; Austin, Texas, or at Seaboard Nat. Bank of New York City. Denomination \$1000. Certified check for \$1000, payable to J. W. Munson, County Judge, required. To be sold at Angleton, Texas, at 2 o'clock P. M. August 21, 1911. Right to reject any and all bids reserved.

Address

J. L. EMERSON, Secretary, Athens, Tennessee.

\$300,000 McMinn County (Tennessee) Road Bonds

Sealed bids will be received until August 15, 1911, one o'clock P. M., for the purchase of \$300,000 McMinn county road bonds; five per cent.; payable semi-annually; thirty-year and non-optional. Certified check, \$3000, must accompany bid. Right reserved to reject any and all bids.

Address

J. L. EMERSON, Secretary, Athens, Tennessee.

Notice of Sale of Bonds

Sealed proposals will be received by the Board of Bond Trustees of Jasper, Florida, until August 10, 1911, at twelve o'clock noon, for the purchase of all or any part of the \$30,000 five per cent. sewerage, street and city hall bonds of the City of Jasper; thirty bonds of \$1000 each, dated July 15, 1911, maturing thirty years, interest payable annually.

Any defect in ordinance calling election cured by special legislative act. Each bid to be accompanied by certified check for one per cent. of the par value of bonds bid for.

Bids to be addressed to the undersigned. Right reserved to reject any or all bids.

W. S. MURROW, Secy. Board of Bond Trustees.

\$180,000 4 1/2% Bonds

Pensacola, Fla.
Notice is hereby given by the County Commissioners of Escambia County, Florida, that they will receive bids for the purchase of \$180,000 4 1/2 per cent. coupon bonds of Escambia County, Florida, at the office of the Clerk of the Circuit Court of Escambia County, Florida, on Tuesday, the 15th day of August, 1911, at 10 A. M. The amount of bonds hereby offered to be sold are \$180,000 bonds to be issued by Escambia County, Florida, and bear interest at the rate of 4 1/2 per cent. per annum. The said bonds are in denomination of \$500 each and numbered consecutively by commencing with number 1. The interest on said bonds is at the rate of 1/2 per cent. per annum, payable October 1, annually. The said bonds provide that twelve of said bonds shall be retired on the 1st day of October of each year, commencing October 1, 1912, in the order in which they will be numbered. Certified check for five per cent. of amount of bid to accompany each bid.

The County Commissioners hereby reserve the right to reject any and all bids offered upon the said bonds.

JAS. MACGIBBON, Clerk Board County Commissioners.

\$45,000 Gold Bonds

CITY OF BRADENTOWN, FLORIDA, IMPROVEMENT BONDS.

Sealed bids will be received by the City Council of the City of Bradentown, Florida, at the office of the City Clerk, until noon of August 24, A. D. 1911, for \$45,000 Improvement bonds.

These bonds will be of the denomination of \$500 each, payable with the interest thereon in gold coin at the office of the Treasurer of the City of Bradentown, Florida, thirty years after the date thereof, with the option or privilege reserved by the City of Bradentown of redeeming said bonds after twenty years from date.

Said bonds are to be dated July 1, A. D. 1911, and to bear interest at the rate of five (5) per cent. per annum, payable semi-annually on the first day of January and July.

No bid will be entertained for less than par and accrued interest and unless accompanied by a certified check for 2 per cent. of the amount of the bonds bid for.

This issue of bonds validated, ratified and confirmed by Special Act of the Florida Legislature.

The City Council reserves the right to reject any or all bids.

E. KRETSCHMAR, Clerk City of Bradentown, Florida.

PROPOSALS

PUBLIC BUILDINGS.

CONSTRUCTION BONDS

MISCELLANEOUS.

NEW BOND OFFERINGS

Sale of Bonds

Honea Path, S. C., July 24, 1911.

The undersigned Commissioners of Public Works of the town of Honea Path, in the State of South Carolina, hereby call for bids for thirty-seven thousand (\$37,000) dollars of the coupon bonds of the town of Honea Path, bearing interest at a rate not to exceed six (6) per centum per annum, payable in any legal-tender money of the United States forty years after date, with the privilege of redemption after twenty years from date, and of such denomination and bearing such date as may hereafter be determined. That of the issue of the said sum of \$37,000 of bonds the proceeds from the sale of \$26,000 of said bonds shall be used for the establishment of a system of water-works in the town of Honea Path, and the proceeds of the sale of \$11,000 of said bonds shall be used for the establishment of electric-light works in said town.

The issuance of said bonds has been authorized by an ordinance passed by the Town Council of Honea Path on the 11th day of May, 1911, in pursuance of a separate election on each question in said town on the 9th day of May, 1911, at which a majority of the qualified registered electors voting at said election voted in favor of the issuance of said bonds, respectively.

Said elections were ordered by the Town Council in pursuance of petitions from a majority of the freeholders praying that a special election be held in said town on the question of issuing \$26,000 of coupon bonds for the establishment of water-works in said town, and that a special election be held in said town on the question of issuing \$11,000 of coupon bonds for the establishment of electric-light works in said town.

Bidders are requested to name rate of interest (not exceeding six per cent.), denomination, place of payment of interest and principal on which they bid, as these matters will not be determined until all bids have been considered and the bonds sold, and will then be fixed in accordance with the bid or bids accepted.

Sealed bids will be received until 12 o'clock noon on the 10th day of August, 1911, when the said Commissioners will meet at the office of the Town Council in said town and receive and consider any bids then submitted, but no sealed bids will be opened before twelve o'clock noon of said day.

Bids may be made for any part or the whole of said bonds, and said Commissioners reserve the right to reject any or all bids.

Successful bidders will be required to deposit ten per cent. of the amount awarded them immediately being notified of the acceptance of their bid, as a guarantee of compliance with said bid on the bonds being delivered in conformity to the terms of the accepted bid. Said sum shall be deemed liquidated damages in favor of the said town of Honea Path in case of failure on the part of any bidder to comply promptly with the conditions of purchase. Only cash or certified checks, payable unconditionally, will be accepted as such deposit. Successful bidders will be given a reasonable time in which to have the validity of said bonds determined, and in the event that said bond or any part thereof should be held invalid by the courts, then the cash deposited or certified checks shall immediately be returned to the owners.

Bidders submitting written bids are requested to use the accompanying form, and written bids should be addressed to the undersigned Commissioners and plainly marked that it is a bid on said bonds in order that same may not be opened before the above-named date.

J. F. MONROE,
F. H. HUDGENS,
L. A. BROCK,
Commissioners of Public Works
for the Town of Honea Path.

Commissioners of Public Works, Honea Path,
S. C.

We submit the following bids for water and light bonds of the town of Honea Path, S. C., understanding that the bonds shall be payable forty years after date, with the privilege of redemption after twenty years from date, and at a rate not exceeding six per cent.:

Amount desired.....\$.....

Denomination.....\$.....

Principal and interest payable at.....\$.....

For 6 per cent. bonds.....\$.....

For 5½ per cent. bonds.....\$.....

For 5 per cent. bonds.....\$.....

For 4½ per cent. bonds.....\$.....

For 4 per cent. bonds.....\$.....

(Sign here).....

(Address).....

\$6000.00 6% School Bonds

Butler, Tenn., July 4, 1911.

Wanted—Sealed bids on a six-thousand-dollar coupon bond issue for the purpose of purchasing a site and the erection thereon a school building and to furnish and equip the same. Bonds payable at the Johnson County Bank in said town April 15, 1911. Interest at 6 per cent. per annum, payable semi-annually. Bids to be delivered on or before August 15, 1911.

J. E. REECE, Mayor.
D. R. STOUT, Recorder.

Sewerage Bonds for the City of Mt. Pleasant, Texas

The City Council of this city will receive sealed bids for proposals until August 5 at 5 P. M., 1911, for \$16,000 5 per cent. thirty-year non-optional bonds. Interest payable semi-annually. Bonds are payable at the office of the State Treasurer, at Austin, Texas, payable in lawful money of the United States, in denomination \$250 each, dated 15th day of June, 1911.

Total floating bonded indebtedness, \$38,000. No other debt.

Total actual values, \$1,700,000. Total value last rendition from rolls 1911, \$1,200,000.

Values increased four times in six years; \$200,000 increase in values this year.

Bonds issued by the authority of City Council. Regular election carried five to one and approved by the State of Texas.

The right to reject any and all bids is hereby reserved, and a certified check of \$250 must accompany each bid, made payable to the City of Mt. Pleasant, Texas, in case of forfeit. For further information address J. V. Moore, Mayor, Mt. Pleasant, Texas.

Notice for Bids and Disposition of Bonds In Accordance With Section 792, General Statutes of Florida.

The Board of County Commissioners of Duval County, Florida, will receive bids for the purchase of two hundred and fifty thousand dollars (\$250,000) of Duval county, Florida, five (5) per cent. bonds at the clerk's office, in the courthouse at Jacksonville, Fla., at 10 o'clock on Monday, the 25th day of August, A. D. 1911.

The principal of said bonds shall be due and payable on the first day of December, A. D. 1939.

Interest on said bonds shall be due and payable on the first day of June and December of each year.

Any and all bids may be rejected if the County Commissioners shall deem it for the interest of the county to do so.

Address all bids to County Commissioners of Duval County, Florida, care P. D. Cassidy, clerk, Jacksonville, Fla.

P. D. CASSIDY,
Clerk of the Board of County Commissioners
in and for Duval County, Florida.

Sale of Bonds

Notice is hereby given that sealed bids will be received by J. W. Johnson, Marion, S. C., Attorney for the Board of Trustees of High School District No. 1 of Marion County, State of South Carolina, and for the Board of Trustees of School District No. 36 of Marion County, State of South Carolina, up to twelve o'clock noon on Thursday, August 31, for an issue of coupon bonds for said High School District in the sum of twenty thousand (\$20,000) dollars, payable forty years after date, interest at five per cent. per annum from date of issue, payable annually; also for an issue of coupon bonds of said School District No. 36, in the sum of thirty thousand (\$30,000) dollars, payable twenty years after date, interest from date of issue at the rate of five per cent. per annum, payable annually.

Any questions arising as to the validity of said bond issue will be submitted to the Supreme Court at the expense of the Board of Trustees.

Purchaser must refund accrued interest on bids to date of payment for same. The trustees reserve the right to reject any and all bids.

The town of Marion, with population of thirty-nine hundred according to census 1910. Property according to tax returns of nearly \$900,000 is included in above districts.

Macon Waterworks Bonds \$700,000.00

Sealed bids to be received by A. R. Tinsley, Treasurer, City of Macon, Ga., up to noon of September 4, 1911, to be publicly opened by the Mayor and Council in open Council on the 5th day of September, 1911.

Certified check for \$1000 to accompany each bid. City reserves the right to reject any and all bids.

Bonds to be delivered to purchaser at the office of the City Treasurer, Macon, Ga., on Saturday, September 30, 1911.

Note—This sale is for \$700,000, numbered from 1 to 700, inclusive, the remaining \$200,000 to be sold at a later date.

For full information apply to A. R. TINSLEY, Treasurer, Macon, Ga.

SEWERS

Sewers and Waterworks

CHANGE OF DATE.

Sealed proposals will be received by the Mayor and Council of Thomaston, Georgia, until 2 P. M. Wednesday, August 23, for furnishing material, machinery and labor for constructing water-works and sewer system in and for the town of Thomaston, Ga. Plans may be seen at the office of the City Clerk or Engineers, and specifications may be obtained from either.

Certified check for 5 per cent. required. The right is reserved to reject any or all bids.

CLAUDE WORRILL, Mayor.
R. E. RUSHIN, Clerk.

THE J. B. MCCRARY CO., Engineers,
1311-15 Empire Building,
Atlanta, Georgia.

Sewers

Sealed proposals will be received by the Sewage Commission of Clinton, S. C., on August 21, 1911, publicly opened and read at 3 P. M., for the construction of a system of sanitary pipe sewers.

Work embraces approximately nine (9) miles of sewers 8 to 12 inches, and two set-ling tanks.

Plans and specifications may be obtained from Engineers on deposit of \$10.

Certified check for 5 per cent.

Right is reserved to reject any or all bids.

W. M. McMillan, Chairman.
S. W. SUMEREL, Clerk.

THE J. B. MCCRARY CO., Engineers,
1311-15 Empire Building,
Atlanta, Ga.

Proposals for Sewerage System

SOCS Jacksonville, Fla., July 27, 1911.

Bids will be received by the Board of Bond Trustees of the City of South Jacksonville, Florida, until 4 o'clock P. M. August 24, 1911, for the construction of a sanitary sewerage system.

Extent of proposed work is approximately 3½ miles of pipe, 8 to 18 inches; manholes, flush tanks, etc. Specifications may be obtained from and plans and profiles seen at the office of the Consulting Engineer.

Each bid must be accompanied by a certified check for 5 per cent. of the total of bid. The right is reserved to reject any and all bids.

W. A. SWAIM, Chairman;
A. C. MACEY, Secretary;

Board of Bond Trustees,
South Jacksonville, Fla.

WILLIAM W. LYON,
Consulting Engineer,
305 Duval Bldg., Phone 849,
Jacksonville, Fla.

PAVING

Road Work

NOTICE TO CONTRACTORS.

Maryville, Tenn., July 18, 1911.

Sealed bids will be received at office of the Blount County Pike Commissioners in Maryville, Tenn., up to 12 o'clock noon Monday, August 7, 1911, for grading and macadamizing, or grading alone, about 85 miles of public road in Blount county, Tenn.

Plans and specifications can be seen at the office of Pike Commissioners any time after July 24, 1911.

A certified check must accompany the bid, payable to the Blount County Pike Commissioners, for 5 per cent. of the amount of bid, which will be required as evidence of good faith on the part of the bidder.

The right to reject any or all bids is reserved.

T. F. COOPER, Chairman,
Blount County Pike Commission.

Macadam Road

OFFICE OF STATE HIGHWAY COMMISSION.

Richmond, Virginia, July 27, 1911.

Bids will be received by the undersigned and the Board of Supervisors of Wise County at the Clerk's office at Wise, Va., up to 11 A. M. Wednesday, August 23, 1911, for the construction of about two hundred and seventy-two thousand (272,000) square yards of macadam, to be laid on roadbed already graded, in groups as follows:

Wise Group.....49,869 square yards
Norton Group.....33,441 square yards
Coeburn Group.....69,523 square yards
Big Stone Gap Group.....38,590 square yards
Appalachia Group.....30,508 square yards

Quarry rights will be furnished to the contractor free of cost at the most convenient points obtainable. Bids on each separate group must be accompanied with a certified check, payable to the Chairman of the Board of Supervisors of Wise County, in the sum of five hundred (\$500) dollars; but a certified check in the sum of fifteen hundred (\$1500) dollars will entitle the bidder to bid on three (3) or more groups; this as a guaranty of the acceptance and performance of the contract by the party to whom it may be awarded, and his failure to execute said contract will forfeit said check.

The right is reserved to reject any and all bids.

Specifications and "Instructions to Bidders" may be had on application to the County Engineer at Norton, Virginia.

P. ST. J. WILSON,
State Highway Commissioner.

Paving

Brownsville, Texas, July 13, 1911.

Notice is hereby given that the City Council of Brownsville, Texas, will receive sealed bids until 12 o'clock noon August 15, 1911, for furnishing necessary labor and material for the construction of about 27,500 square yards of street paving. Bids to be made on three classes of pavement, namely, Brick, Cretaceous Wood Block and Bitulithic.

Each bid must contain full name of every person or company interested in same and be accompanied with a certified check for the sum of one thousand dollars as a guarantee if the bid is accepted a contract will be entered into and its performance promptly secured. Should any bid be rejected the certified check will be forthwith returned to the bidder. And should any bid be accepted certified check will be returned upon the proper execution and securing of the contract. Plans and specifications are on file with the City Clerk, also with the City Engineer of the City of Brownsville. Copies of the above will be forwarded upon receipt of five dollars. The right is reserved to reject any and all bids.

By order of the City Council City of Brownsville.

BENJ. KOWALSKI, Mayor.
L. B. PUENTE, City Clerk.

BRIDGES

Steel Bridge

OFFICE OF POLICE JURY, MADISON PARISH, LA.

Tululaha, La., 1st August, 1911.

Sealed proposals, to be directed to A. L. Slack, Secretary of said Board, to be opened on Monday, 28th August, 1911, will be received at this office for the erection of a steel bridge across Joe's Bayou, at the head of Joe Bayou Lake, with the right reserved to accept or reject any bid. Located 3½ miles south of Waverly, on V. S. & P. Ry.

Said bridge to have a roadway of 12 feet and some 130 feet in length, including a span of 75 feet. Plans can be submitted by each bidder, one of which will be selected, on which the bids will be received.

By direction of the Police Jury.
A. L. SLACK,
Secretary.

Concrete Bridges

Grenada, Miss., July 12, 1911.

Sealed proposals will be received by the Board of Supervisors of Grenada County at Grenada, Miss., until 12 o'clock noon August 7, 1911, for the furnishing of material and constructing of six reinforced concrete bridges in accordance with the plans and specifications on file in the office of the Chancery Clerk.

All bids must be accompanied by a certified check upon a solvent bank for 5 per cent. of the total amount of the proposal, and the successful bidder will be required to give bond in double of the amount of contract in accordance with the law.

The Board reserves the right to reject any and all bids or to accept the one deemed most advantageous to the county.

JOHN S. KING,
Chancery Clerk.
ALBERT T. WITBECK,
County Engineer.

Notice to Bridge Builders

Sealed bids will be received by the Board of Public Works of the City of Tampa, Florida, at their office, Room 23 First National Bank Building, up to 2 o'clock P. M. Wednesday, September 6, 1911, for the construction of a reinforced concrete or concrete-steel bridge, with bascule lift, over the Hillsborough River at Lafayette street. A certified check of \$10,000 must accompany each bid as a guarantee that the successful bidder will enter into contract according to their bid and specifications within ten days after award of same.

Plans and specifications to accompany each bidder's proposal.

A profile of the river at the bridge site and information can be obtained from the engineer of the Board.

The city reserves the right to reject any or all bids.

D. B. McKAY, Chairman.

Attest: ALLEN THOMAS, Clerk.

Five Steel Bridges

Somerville, Tenn., July 30, 1911.

Sealed bids will be received until 2 P. M. August 21, 1911, by the Commissioners appointed by the County Court of Fayette County, Tenn., at the office of the Chairman of the Court at Somerville, Tenn., in the furnishing and erecting of 5 steel bridges, together with necessary foundations.

Plans and specifications may be seen at the office of the Chairman or at the office of the Engineer, Howard M. Jones, Cole Building, Nashville, Tenn., after August 14, 1911. A certified check of 5 per cent. of bid must accompany bid as a guarantee that the successful bidder will enter into a contract as required by the specifications and the Commissioners within 5 days after award of same. Proposals must show the bid on each bridge separately.

The Commissioners reserve the right to reject any or all bids or to accept any bid in whole or in part.

H. P. HOBSON,
Chairman of County Court
of Fayette County, Tenn.

PROPOSALS

PUBLIC BUILDINGS.

CONSTRUCTION BONDS

MISCELLANEOUS.

MISCELLANEOUS

THE CITY OF FORT WORTH, TEXAS.
will receive sealed bids until September 5, 1911, for construction of a dam containing about 300,000 cubic yards of earth work and 60,000 cubic yards of masonry. Also concrete pipe line about 6½ miles long. Details on application to THE BOARD OF ENGINEERS, City Hall, Fort Worth, Texas.

Fire-Proof Bank and Office Building

Bids will be received by the Board of Directors of the Atlantic Trust & Banking Company, Wilmington, N. C., for the erection of an eight-story fireproof bank and office building, to be erected on the northeast corner of Front and Market streets, Wilmington, N. C., until the 15th day of August, at noon, and opened at that time.

Plans and specifications can be had by applying to the architect, J. F. Leitner, Garrell Building, Wilmington, N. C.
All bids must be accompanied by certified check of \$1500, to be forfeited to the Board of Directors as liquidated damages in the case of failure to sign contract and furnish the required bond.

The right is reserved to accept or reject all bids.

Address all bids to C. N. Evans, President, Atlantic Trust & Banking Company, Wilmington, N. C.

Dredging

NOTICE TO CONTRACTORS.

Office of City Engineer, City Hall,
Richmond, Va., August 1, 1911.

Sealed proposals will be received at this office until 12 M. Tuesday, September 5, 1911, for doing certain dredging along the left shore of James River to Nicholson street.

Full information may be obtained upon application at this office.

A certified check for \$250, made payable to the Treasurer of the City of Richmond, must accompany each bid as a guaranty of execution of contract.

The Committee on Improvement of James River reserves the right to reject any and all proposals offered.

CHAS. E. BOLLING,
City Engineer.

Hotel Building

NOTICE TO CONTRACTORS.

Sealed bids for the construction of the six-story fireproof reinforced concrete and brick New Albany Hotel building, Albany, Ga., as per plans and specifications prepared by Todd & Benson, architects, Charleston, S. C., will be received by the Albany Hotel Co., Albany, Ga., until 12 o'clock noon September 5, 1911.

The heating, plumbing and electric installations will each be let under separate contracts. Bidders for these are also requested.

Each bidder may obtain a copy of the plans and specifications by application to the architects, Todd & Benson, Charleston, S. C., and by depositing with said architects a certified check for \$25, the same to be returned upon the surrender of the plans and specifications to the architects in good condition.

Satisfactory bond as specified in the specifications will be required of the successful bidders.

Each bidder is further requested to specify in his bid the time in which he will guarantee to complete the building.

The right to accept any or reject any or all propositions presented reserved.

THE ALBANY HOTEL CO.,
Albany, Ga.

Building Material

Bids are invited for the following material: Terra-cotta piping, assorted sizes; cement, brick, lime, roofing slate, roofing tile and sewer piping. Said bids to be based on the purchase of said material in carload lots, to be delivered f. o. b. cars at the State Park on the Southern Railway, seven miles east of Columbia. Station now known as Dent. Bidder will also state at what time delivery could be made. Bids to be filed with the Chairman.

STATE HOSPITAL COMMISSION.
Dr. J. W. Babcock, Chairman,
Columbia, S. C.

E. H. Aull, Secretary,
Newberry, S. C.

County Courthouse for Citrus County, at Inverness, Florida

NOTICE TO CONTRACTORS.

Notice is hereby given that the Commissioners of Citrus County, Florida, will let the contract for a Courthouse for Citrus County on Monday, August 21, 1911, at Inverness, Florida, to the lowest and best bidder. All bids to be sealed and delivered to the Chairman of the County Commissioners by nine o'clock, forenoon, on August 21, 1911.

The Courthouse building to be erected upon the county's property in the city of Inverness according to the plans and specifications drawn by Architect, J. R. MacEachron, and adopted by the County Commissioners of said county.

All bids must be sealed and addressed to the Chairman of the County Commissioners of Citrus County, and directed to Inverness, Florida, and must be accompanied by a certified check of 10 per cent. of the amount of the bid submitted.

The bid accepted by the said Commissioners, the bidder shall, within ten days from the time said bid is accepted, give, in a guaranty surety company legally authorized to do business in the State of Florida and acceptable by the County Commissioners, a bond in the full amount of the contract price. Said bond to guarantee the erection and completion of said building complete, the same according to the plans and specifications, within the time in which it is to be completed as agreed upon; and if the bidder fails to give said bond or to execute the contract within the above-stated time, then the certified check heretofore given shall be forfeited to said county, and immediately be collected by the Commissioners as liquidated damages.

Work on said building shall commence on or before _____ and shall be completed on or before _____.

Payments for the work shall be made as the work progresses in seven payments, the last payment to be made when the building is fully completed and accepted by the owner on advice of the architect.

The Commissioners reserve the right to accept or reject any or all bids.

Plans and specifications are on file and subject to examination at the office of the County Commissioners at Inverness, Florida, and at the office of J. R. MacEachron, Architect, Candler Building, Atlanta, Ga.

Any contractor away from these above-mentioned places can secure a set of plans and specifications by sending and depositing with the Clerk of Circuit Court at Inverness, Florida, a certified check in the amount of \$50, said check to be returned to the contractor upon the return of said plans and specifications, expressage being paid both ways by the bidder.

By order of the Board of County Commissioners, July 19, 1911.

WALTER F. WARNOCK,
Clerk Circuit Court.

Proposals for the Construction of Water and Light Plant

South Jacksonville, Fla., July 27, 1911.

Bids will be received by the Board of Bond Trustees of the City of South Jacksonville, Florida, until 4 o'clock P. M. August 24, 1911, for furnishing approximately 5 miles 8, 6 and 4-inch cast-iron pipe and specials; hydrants and valves; drilling 12-inch well; furnishing tower and tank; two boilers; feed-water heater; pumps; generator, exciter, switchboard, etc.; simple valve engine; laying cast-iron pipe; constructing reservoir; tower foundations; installing machinery; furnishing and installing electric line work, and constructing power-house. Specifications may be obtained from and plans seen at the office of the Consulting Engineer.

Each bid must be accompanied by a certified check for 5 per cent. of the total of bid. The right is reserved to reject any and all bids.

W. W. SWAIM, Chairman;
A. C. MACEY, Secretary;
Board of Bond Trustees,
South Jacksonville, Fla.

WILLIAM W. LYON,
Consulting Engineer,
305 Duval Bldg., Phone 849,
Jacksonville, Fla.

Pumping Machinery

MUSKOGEE, OKLAHOMA, PUBLIC IMPROVEMENTS.

Sealed proposals will be received by the City Council of the City of Muskogee, Oklahoma, until Tuesday, August 29, 1911, at 10 o'clock A. M., and opened immediately thereafter, for the furnishing and erecting of the following pumping machinery:

- 1 5,000,000 low-lift centrifugal pump.
- 1 5,000,000 high-lift centrifugal pump.
- 1 5,000,000 high-lift centrifugal pump.

Bids will be received alternatively for direct connection with electric motors and steam turbines.

A certified check for 10 per cent. of the amount of the proposal shall accompany each bid. The right is reserved to reject any or all bids or to accept that one which, in the judgment of the City Council, is for the best interest of the city.

Specifications can be procured at the office of the City Engineer or at the office of the Consulting Engineer, No. 114 Liberty St., New York, on or after August 10, 1911. File all bids with Chas. Wheeler, Jr., City Clerk. By order of the City Council.

E. H. FLEMING,
Commissioner.

T. P. CLONTZ,
City Engineer.

ALEXANDER POTTER,
Consulting Engineer.

Auto Hose Wagon

The City Council of the City of Florence, S. C., will receive proposals until six o'clock P. M. Thursday, August 10, for the furnishing of one Combination Auto Hose Wagon, complete. The city desires to exchange as part payment for same one second-hand steam fire engine and one second-hand double horse-drawn hose wagon, which is now in service. This apparatus can be seen at the Fire Department headquarters of the City of Florence. Send proposals to W. H. Malloy, City Clerk. For further information address W. H. Berry, Chairman Fire Committee.

Buildings

Bids are desired for all labor necessary for the construction of the following buildings in Saluda, South Carolina: Bank and office building, sixty by ninety, three stories; storeroom, twenty-five by one hundred, two stories; garage and shop, fifty by hundred and fifty, two stories. All material furnished by owner, and foundations and ground floors of concrete all ready for receiving structures. See plans and specifications, bank and office building, with G. Lloyd Freacher, Dyer Bldg., Augusta, Ga. Plans and specifications of all three buildings to be seen at and all proposals to be sent to office of Eugene W. Able, Saluda, South Carolina.

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Contractors' Equipment FOR SALE

1 pair 18x30 Reversible Link Hoisting Engines, single drum; also one pair 18x30 Reversible Link, double drum, side by side, 6½ feet in diameter; 1 16x24 Slide-Valve Engine; 1 300 H. P. Heater; 3 10x12 D. C. Double-Drum Lidgerwood Culeway Engines, with or without cables; 1 pair Allis-Chalmers D. C. D. Friction and Reversible Link Mine Hoists; also pair 12x16 Mine Hoists, large drums; lot 1½ to 2½-inch Wire Cable, new and second-hand; 1 10x12 D. D. Friction and Reversible Link Hoist, with boiler.

ALLENTOWN EQUIPMENT CO.
ALLENTOWN, PA.

Maxton Sash & Door Company's Plant FOR SALE

For particulars apply to B. F. McLEAN, Receiver, Maxton, N. C.

20TH CENTURY PRODUCTS

TIDEWATER PORTLAND CEMENT TIDEWATER HYDRATED LIME

Made from the purest raw materials, in the most modern plants and under the most skillful supervision in the world.

TIDEWATER PORTLAND CEMENT CO.

Sales Office: 807 Keyser Building, Baltimore, Md.

Special Advertisements of General Interest.

"TIMBER TO BURN"

We have on our list some of the biggest bargains in tracts of timber, both soft and hard woods, that it has been our pleasure to offer the public, and intended buyers will do well to get our list.

We also have several coal properties for sale.

BELLER & WILSON

Headquarters for Timber and Coal. 402-404 Nat. Exchange Bank Bldg., ROANOKE, VA.

BEST BODY OF TIMBER LAND IN THE SOUTH

at the price, for Sale

15,000 ACRES, LOCATED in western part of Fannin County, Ga., between two Louisville & Nashville Railroads, with branch road running into property.

Will cut from 4000 to 5000 feet first class merchantable lumber to acre, consisting Poplar, Oak, White Pine, Hemlock, Ash, Birch and Hickory, not to mention Acid Wood, Tan Bark and Cord Wood; besides there is thousands of Crossties and Telegraph Poles.

Fine prospects for Copper, we think the same vein as Tennessee Copper Co. is now working, covers property.

In addition to above boundary, it is possible to get many thousands of acres same kind of land adjoining.

Price, if purchased immediately, \$12.50 per Acre. Address

DeWITT & MEREDITH, - - - Knoxville, Tenn.

I BUY AND SELL

Timber Lands Colonization Tracts
Mineral Lands Agricultural Lands

In Louisiana, Mississippi and adjoining States

J. Edw. Crusel, 1001 Hibernia Building New Orleans, La.

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Furnished with new threads and coup-
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Four 100 H. P. Portable Return Flue
Boilers, 12"x18" Erie City Engine,
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Full line of New Machinery (Woodworking).

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Guaranteed in A1 condition.
Special prices made on large quantities.

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WATER-TUBE BOILER

One 264-horse-power Babcock & Wilcox
Water Tube Boiler, 160 pounds working pres-
sure, in good operating condition. Has been
in use but a short time and can be purchased
at a bargain.

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First National Bank Bldg., Houston, Texas.

IN STOCK

Rebuilt and guaranteed for
immediate delivery

BOILERS.

- 1 150 H. P. Manning Vertical Tubular, 125 lbs.
steam.
- 1 66"x18" Horizontal Return Tubular, 125 H.
P. 125 lbs. steam.
- 1 80 H. P. Heine Water-Tube, 125 lbs. steam.
- 1 80 H. P. Economic, 100 lbs. steam.
- 1 75 H. P. Scotch Marine, 125 lbs. steam.
- 1 50 H. P. Economic, 100 lbs. steam.
- SPECIAL—Cheap before removal.
- 3 60"x20" Horizontal Return Tubular, 125 H.
P., 120 lbs. steam, with Wilkinson Stokers.

Large stock of return tubular and vertical
types, all sizes.

ENGINES.

- 28"x48" Reynolds. 26"x60" Corliss.
- 24"x44"x48" Cooper Tandem Compound.
- 22"x42" Greene. 20"x42" Greene.
- 20"x30" MacIntosh & Seymour.
- 16"x36" Bates.
- 24"x30" Russell. 12"-22"x42" Greene.
- 12"x24" Buckeye.

Large stock of smaller sizes; also automatic
and plain slide-valve, vertical and horizontal.

AIR COMPRESSORS.

- 24"x24"x20" Rand Single Straight Line, 1200
cu. ft.
- 22"x22"x24" Ingersoll-Sargeant Straight
Line, Class A, 975 cu. ft.
- 10"x10"x10" Cox & Sons Duplex, 275-350 cu. ft.
- 10"x10" Blaisdell Single, 135 cu. ft., belt
driven.

Large stock of smaller sizes.

DIRECT-CONNECTED GENERATORS.

- 525 K. W. 250-volt D. C. Westinghouse, direct
connected to 19"-44"x48" Greene-Wheel-
lock Engine.
- 135 K. W. Fort Wayne, 230-volt, D. C., direct
connected to 14"x16"-22"x16" Ide Tandem
Comp. Engine, 204 H. P. M.
- 50 K. W. 125-volt D. C. Westinghouse, 6-pole,
direct connected to 10"-18"x10" Westing-
house Compound Engine, 315 R. P. M.

BELTED GENERATORS.

- 200 K. W. 250-volt Western Electric, 6-pole,
belt driven, 500 R. P. M.

Large stock of Dynamos, Motors, all sizes.

HOISTING ENGINES.

- 35"x12" Webster, Camp & Lane, D. C., S. D.
- 7"x10" Lidgerwood, D. C., D. D., 40"x7" boiler.
- 7"x10" Ryan & McDonald, D. C., D. D.
- 7"x8" Copeland & Bacon, D. C., S. D., with
base fitted for boiler.
- 6"x10" Flory, D. C., D. D., with 36"x7" boiler.
- 6"x10" Davis, S. C., S. D.
- 6"x10" Mundy, D. C., D. D.

WESTINGHOUSE ENGINES.

- 1 13"x22"x13" Westinghouse Compound, 135
200 H. P.
- 1 12"x20"x12" Westinghouse Compound, 100-
160 H. P.
- 1 11"x19"x11" Westinghouse Compound, 80-100
H. P.
- 1 10"x18"x10" Westinghouse Compound, 65-100
H. P.

Large stock of Junior and Standard types.

FLYWHEEL.

40-ton, 25 ft. diam., 24" bore.
FEED-WATER HEATERS, PUMPS, GAS
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CRUSHERS AND GENERAL EQUIP-
MENT.

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- 36"x36"x8" Betts. 26"x28"x7" Wheeler.
- 30"x30"x8" Pease. 30"x20"x4" Sellers.

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- 36"x16" Triple Geared.
- 26"x14" Fitchburg Lathe.
- 24"x10" Modern, blocked to 34".
- 22"x16" Draper. 22"x15" Harrington.
- 20"x10" 6" Rahn-Carpenter.
- 20"x10" Rahn-Carpenter Gap Lathe.
- 20"x10" Bement-Miles. 20"x8" Pond.
- 20"x12" Lodge & Davis.
- 16"x8" Rahn-Carpenter.
- 15"x8" Carroll-Jameson.
- 15"x6" Carroll-Jameson.
- 12"x6" Hendey Toolroom Lathes, with collets.
- Two 17"x8" Greaves & Klausman.

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- No. 3 Garvin Plain Miller, with dividing
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- No. 2 1/2 Pratt & Whitney Horizontal Miller,
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- No. 2 Cincinnati Universal Milling Machine,
complete, with vertical attachment, like
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About 20 Lincoln Type Milling Machines.

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- 26" Gould & Eberhardt.
- 30"x30" Pedrick & Ayer, open slide.
- 30" Steptoe. 16" Steptoe.
- 30" Smith & Mills. 14" Steptoe.

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- Six No. 2 1/2 Philadelphia Power Presses.
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- PG-5 Ferracute. No. 3 Bliss Geared.
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- 48" Gang Radial. 36" Morris Radial.
- 42" Hillen & Jones.
- 36" Gould & Eberhardt Upright Drill, with
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- 30" Plain.

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- 50-lb. Little Giant Trip Hammer.
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- 48" Gang Radial Drill.
- 36"x12" Slab Miller.
- 8" Eaton, Cole & Burnham Pipe Machine.
- Two No. 5 Springfield Oscillating Surface
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- Two No. 14 Garvin Turret Lathes.
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7"x10" Lidgerwood, dble. cyl., dble. drum.
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2 7 1/2"x10" Mundy, dble. cy., dble. drum.
5 1/2"x10" Lidgerwood, dble. cyl., sgle. drum.
2 6 1/2"x8" Lidgerwood, sgle. cyl., sgle. drum.

SKELETON

2 7 1/2"x10" Lidgerwood, dble. cyl., dble. drum.
3 1/2"x8" Lidgerwood, dble. cyl., dble. drum.
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Engines direct connected to generators.

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2 40 Horse-power. 1 80 Horse-power.
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5 Lambert D. D., with boom swings, Electric Hoists, 30, 40 and 60 H. P., 220 volts.

30 Hoisting Engines, Lambert, Mundy, Lidgerwood, skeleton or mounted, with and without boom swings, 6 to 50 H. P.

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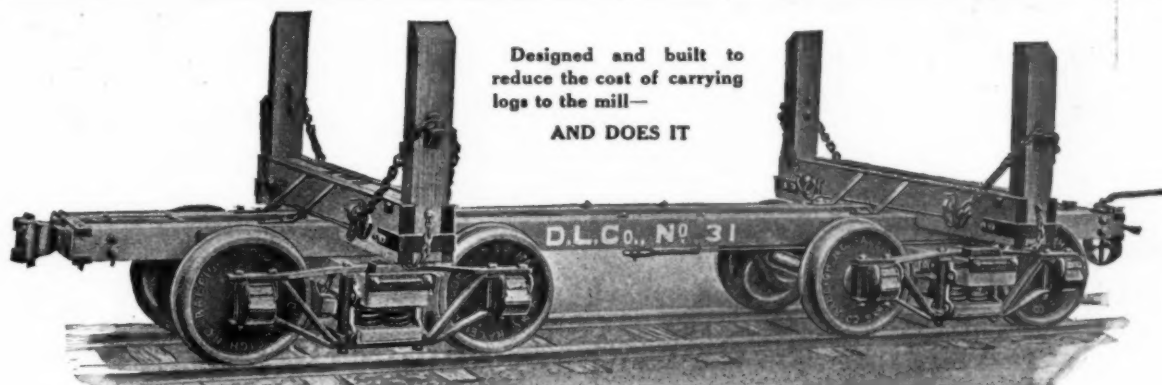
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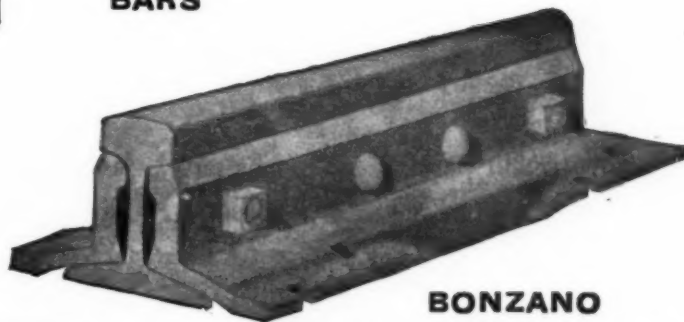
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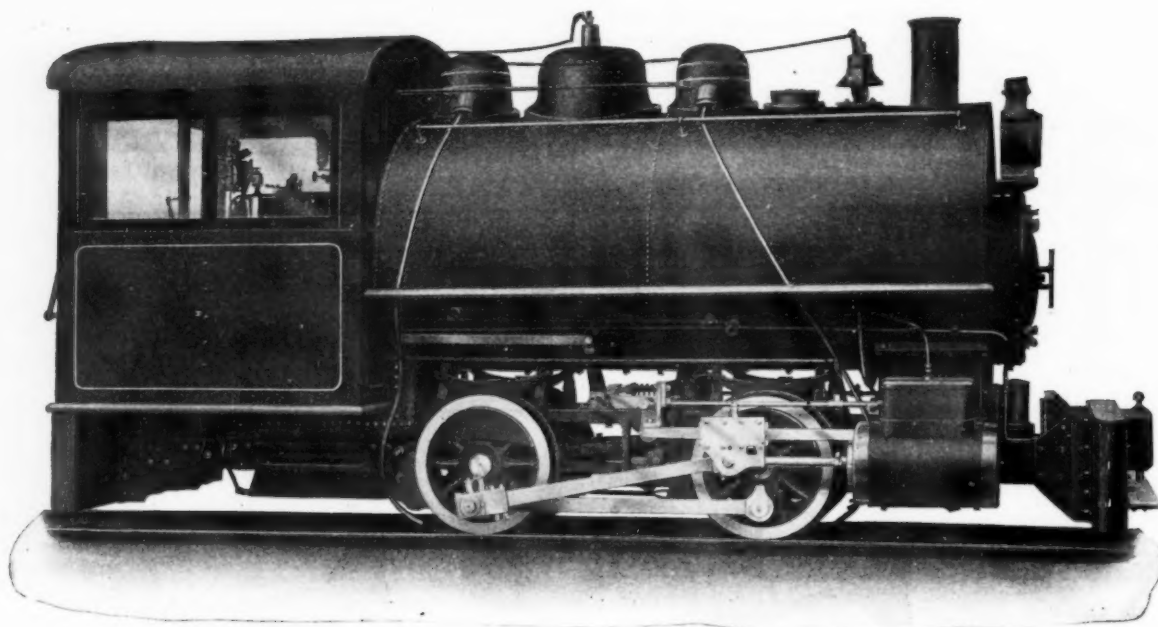
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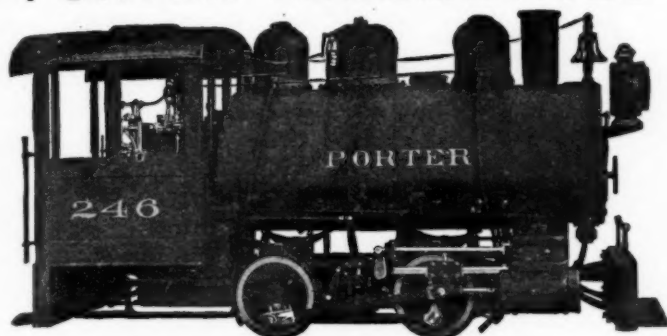
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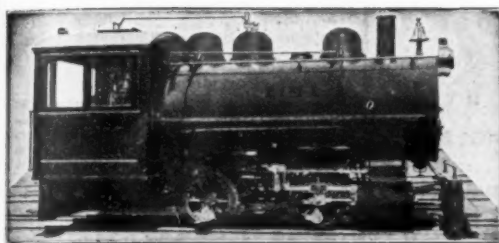
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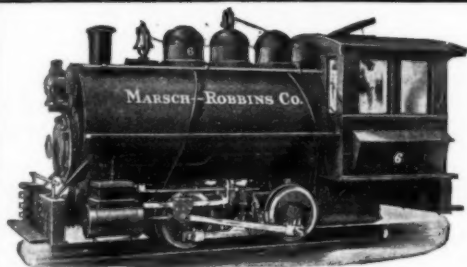
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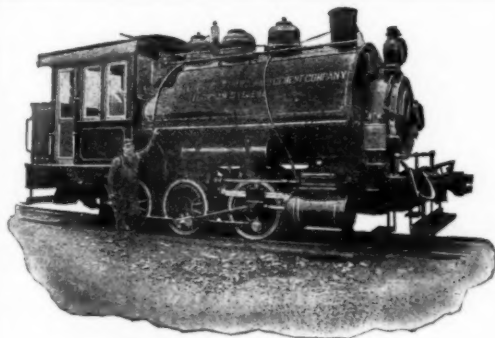
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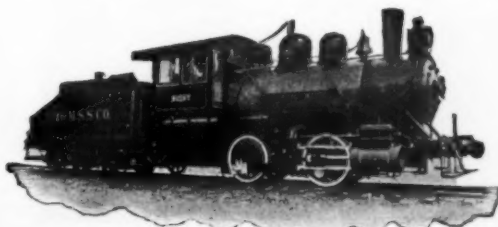
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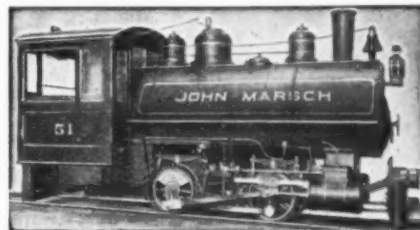
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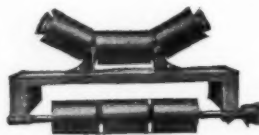
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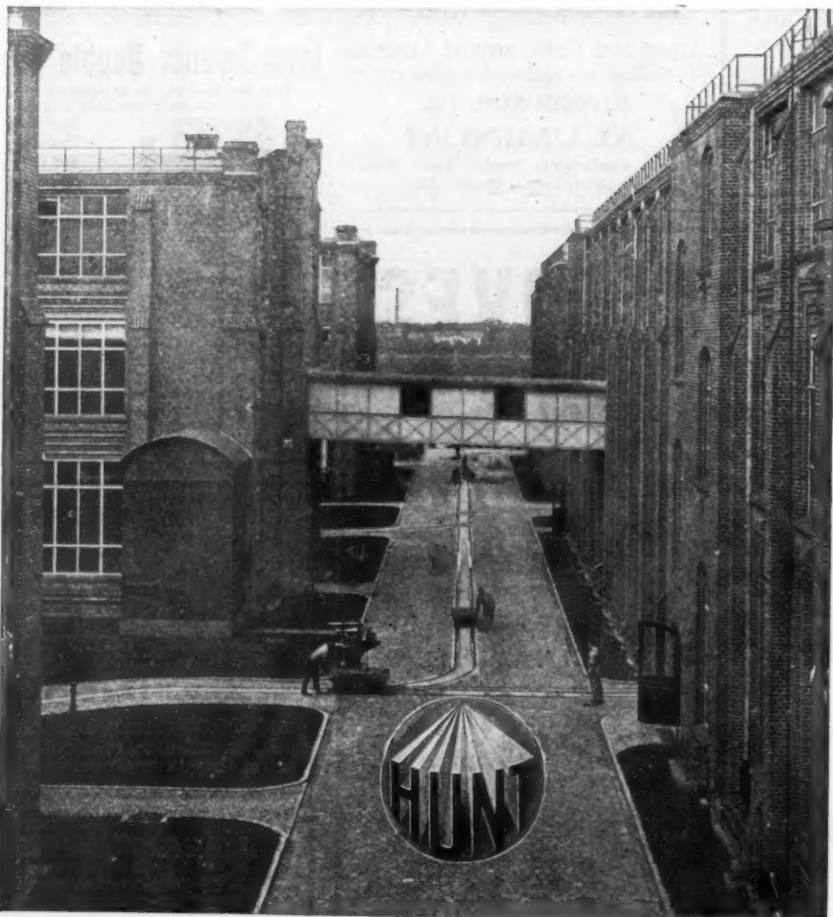
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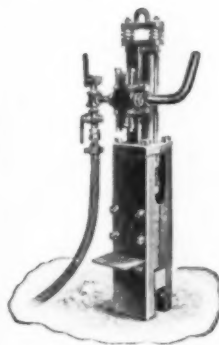
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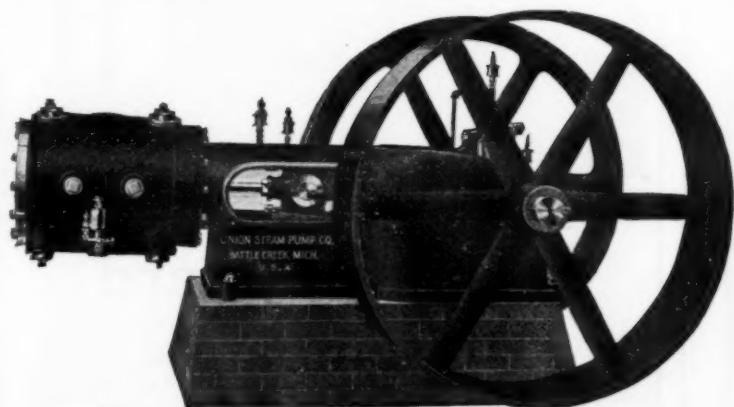


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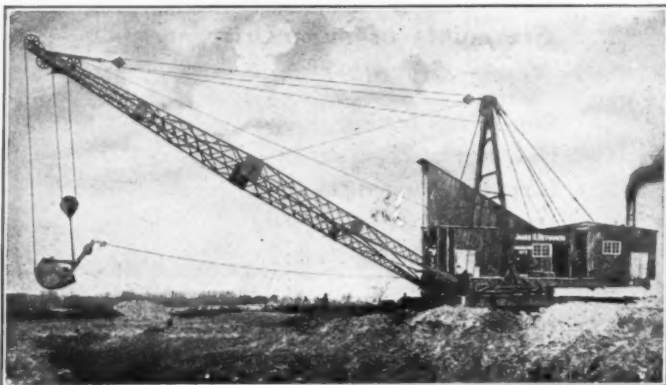
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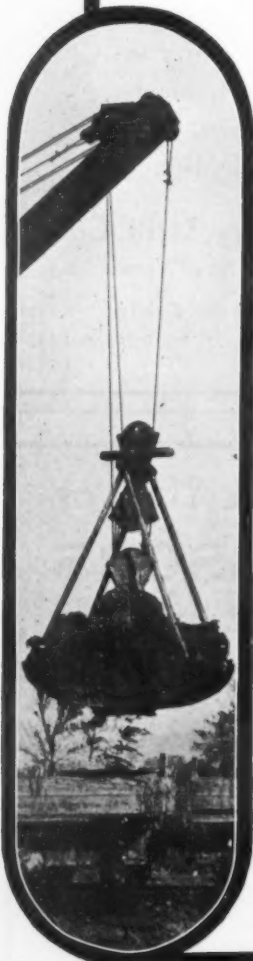
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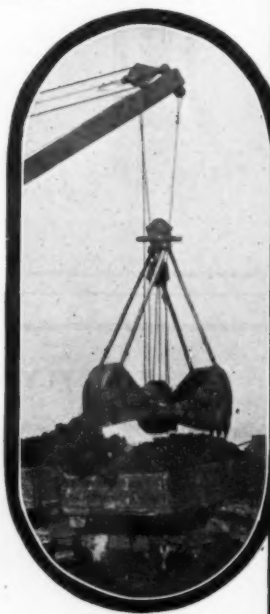


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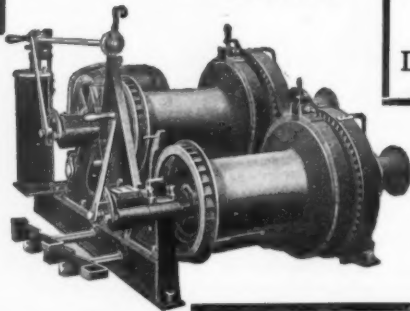
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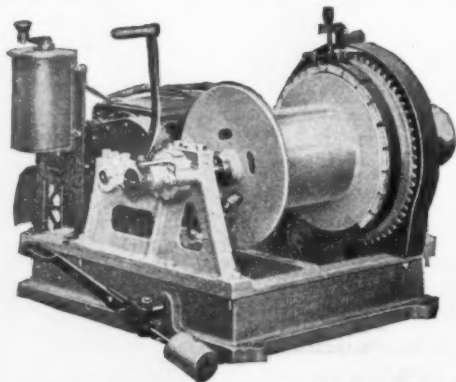
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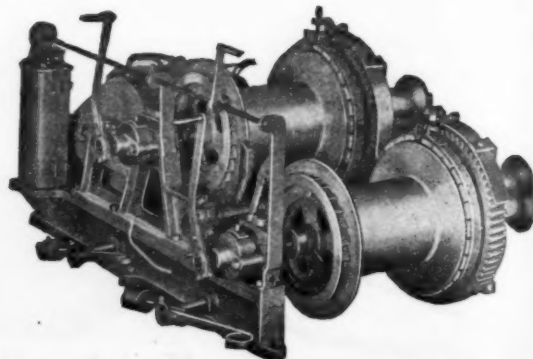
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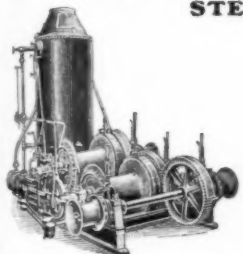
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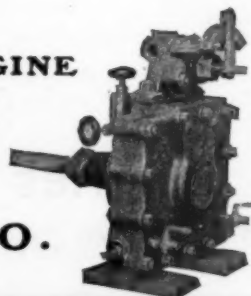
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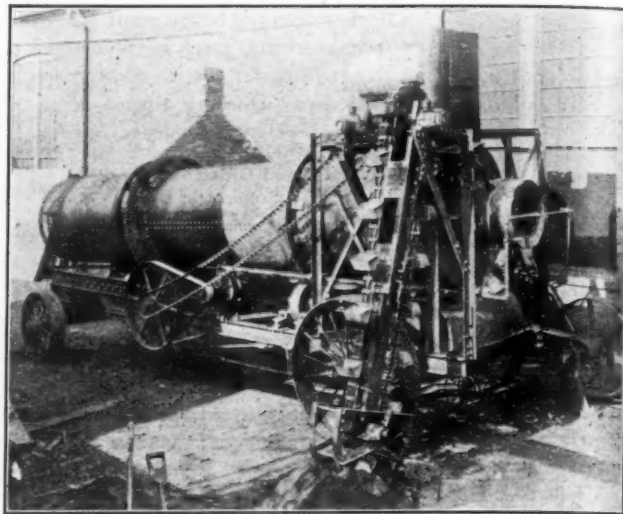
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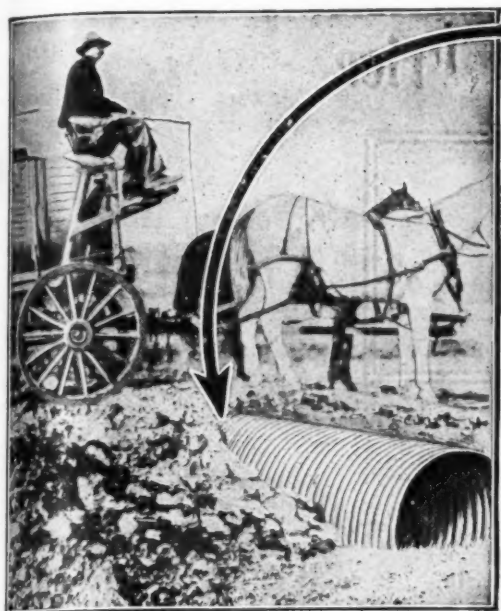
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The best test of **VITRIFIED PAVING BRICK** is service. Our paving blocks are laid in streets where they are giving perfect service after eighteen years' wear.



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Three Factories—Annual Capacity, Thirty Millions Paving Block.



Manufacturers of

HIGH GRADE PAVING BRICK

COPELAND-INGLIS SHALE BRICK CO. Office, 610 1st Nat. Bank Bldg. BIRMINGHAM, ALA.



"Acme" Corrugated Metal Culverts

(Nestable—Patented)

—are used in every State of this Union and in many Foreign Countries—by the U. S. Government, Steam and Traction Railways, Engineers, Contractors and Highway Officials everywhere. References on request.

Their Nestable construction (see upper left-hand corner illustration, "Ready for Shipment") makes them easy to handle and haul, and enables us to ship to, and meet competition in all parts of the world.

They are the most practically constructed corrugated culvert known for general freighting or export purposes.

Their success is due in part to the fact that they are made of U. S. Standard gauge material of the proper thickness to insure stability. And that they are made of Anti-Corrosive No-Co-Ro Metal galvanized sheets—a metal by tests proven to resist corrosion many times more than steel (Pittsburg Testing Laboratory report, March 31, 1909).

Shipped Knock-Down in lengths of 26 inches. Nested (galvanized bolts accompanying) to be set up on the site and rolled into place.

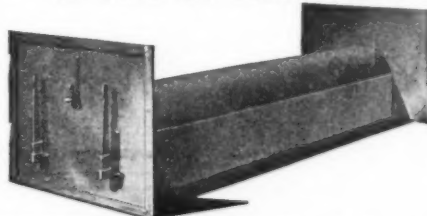
Ask for our 6x9, 24-page, profusely illustrated general culvert booklet M-9 (1911 Edition) and if you want our new little booklet on "No-Co-Ro Metal and Causes for Corrosion," ask for booklet C-9.

THE CANTON CULVERT CO.

Sole Manufacturers Canton, Ohio, U. S. A.

SAVE 25 PER CENT IN COST OF CONSTRUCTION

**CULVERTS
CONDUITS
SEWERS**

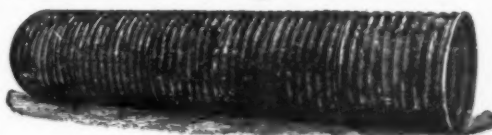


**Our Collapsible
Steel Forms
Will do it**

They are the lightest, strongest, easiest handled forms on the market. Not a single failure anywhere. Write for illustrated booklet and full particulars.

CONCRETE FORM & ENGINE CO., 87 Congress St. W., DETROIT, Mich.

These Corrugated Metal Culverts



**STAND THE
STRAIN**

The heaviest loads do not affect them. Carefully made and thoroughly tested before shipped.

Made of "American Ingot" Iron, they cannot rust. They make a permanent installation. They cost less than wood and are safer than their imitations. Used by the biggest railroads and the best road engineers. Write for "Book of Tests."

KENTUCKY CULVERT MFG. CO.

BUECHEL, KY.

American Ingot Iron Road Culverts, Tanks, Roofing and Siding.



Look for the trade mark. It means durability. Don't accept the imitations. We have the proof that our culverts will carry the heaviest loads that travel and will last for years where others fail. Write for Pamphlet A. on AMERICAN INGOT IRON and B. on culverts and tanks.

The Tennessee Metal Culvert Co., Nashville, Tennessee.

HIGH GRADE PAVING BRICK

Guaranteed to stand 18% standard test

THE CARLYLE PAVING BRICK CO.

PORTSMOUTH, OHIO.

SILEX!

SILEX!

SILEX!

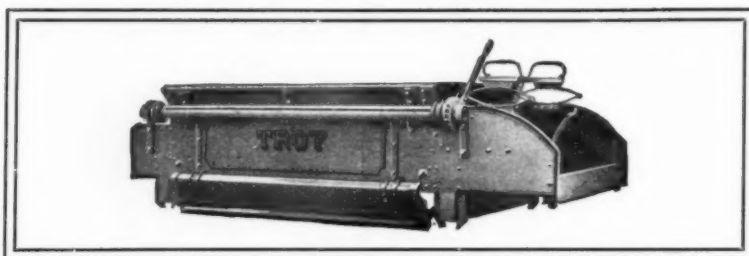
Crystal White, Water Float. Yearly Contracts Solicited.

CLINCH MOUNTAIN FLINT & SPAR CO.

Miners and Pulverizers

BRISTOL, TENN.

Why We Can Afford to Sell 500 Troy Dump Boxes at a Special Introductory Price



We want to demonstrate quickly to the largest possible scope of territory the great saving that can be made by the use of TROY Bottom Dump Boxes in connection with regular teaming gears on all dirt-moving jobs.

We want to reach the team owners and contractors who don't know TROY Dump Boxes. Many of them have never seen a TROY and won't believe until they do see.

One TROY Box in a community means an order-getting booster for us. Every sale means more sales and lots of them. That is why we have set aside 500 TROY Boxes for special advertising purposes.

But We Must Limit Purchases Under This Special Proposition to One Box Per Customer

Our regular price for the 1 $\frac{1}{4}$ -yd. Box is \$45.00 each, and for the 2-yd. Box \$50.00.

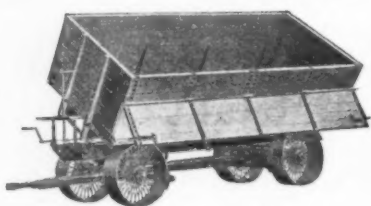
We will furnish 500 Boxes at the following special advertising price—good only as long as the 500 Boxes last, and no order accepted at these figures after September 1, 1911.

SPECIAL ADVERTISING PRICE, 1$\frac{1}{4}$ cu. yd. Box	-	-	-	-	\$36.90 Each
" " " 2 cu. yd. Box	-	-	-	-	40.20 Each

Terms: Net cash with order, F. O. B. Troy, Ohio. Boxes furnished to fit any size gear.

First come, first served. They won't last long. If you want a TROY Box at these figures, MAIL YOUR ORDER TODAY.

THE TROY WAGON WORKS CO. - - - TROY, OHIO



**Heavy Freighting Cars,
Ore Wagons, Log Wagons
and Carts, Lumber
Wagons and Carts.**

WOOD and STEEL TRUCKS For mounting gas engines or any other portable machinery

GASOLINE TRACTORS - - Built complete or any parts.

TRACTION WHEELS - - We make a specialty of heavy drive wheels and axles.

STEEL WHEELS and AXLES Wheels any size, any capacity—to fit any axle—for log and lumber wagons and carts, farm wagons, trucks, etc. Wood or Steel Axles.

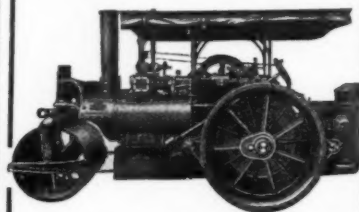
We build Special Wheels and Wagons for any purpose.

Write for prices and Catalog and send specifications.

ELECTRIC WHEEL CO. BOX 89 QUINCY, ILL.

Buffalo Pitts Rollers

BUILT FOR SERVICE



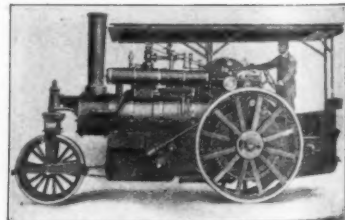
Made in all types and sizes

BUFFALO STEAM ROLLER CO.

BUFFALO, N. Y.

THE KELLY-SPRINGFIELD ROAD ROLLER CO.

SPRINGFIELD OHIO



ROAD ROLLERS

ALL TYPES
ALL SIZES

SEND FOR CATALOGUE

GRINNELL SPRINKLER

General Fire Extinguisher Company

Executive Offices: PROVIDENCE, R. I.

Our Southern Plants

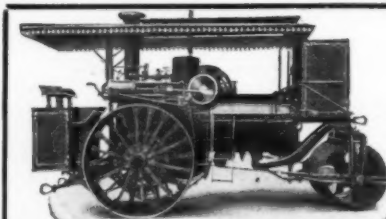
At Charlotte, N. C., Atlanta, Ga., and New Orleans, La.

We carry the largest and best stock in the South of

PIPE, FITTINGS, VALVES, STEAM AND WATER SUPPLIES

Pipe from $\frac{1}{8}$ inch to 12 inches cut to measure. Orders executed promptly at lowest prices.

J. W. CONWAY, Manager Southern Department



HUBER ROLLER

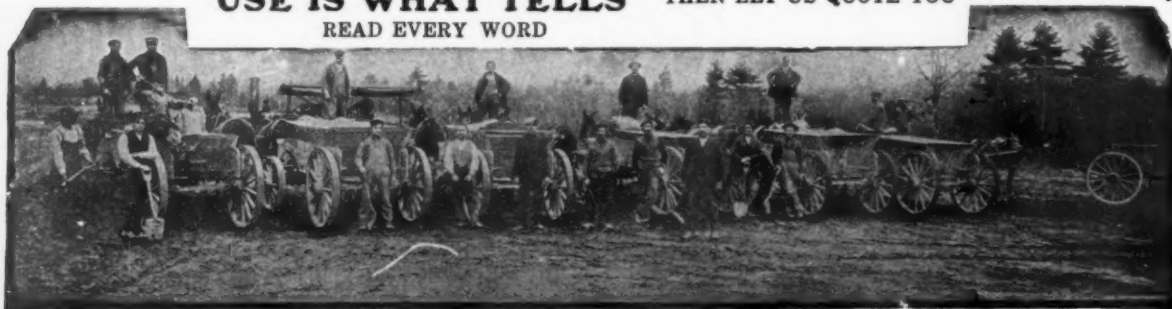
BUILT BY

**THE HUBER
MANUFACTURING CO.**

Dept. 19.

MARION, OHIO

USE IS WHAT TELLS THEN LET US QUOTE YOU
READ EVERY WORD



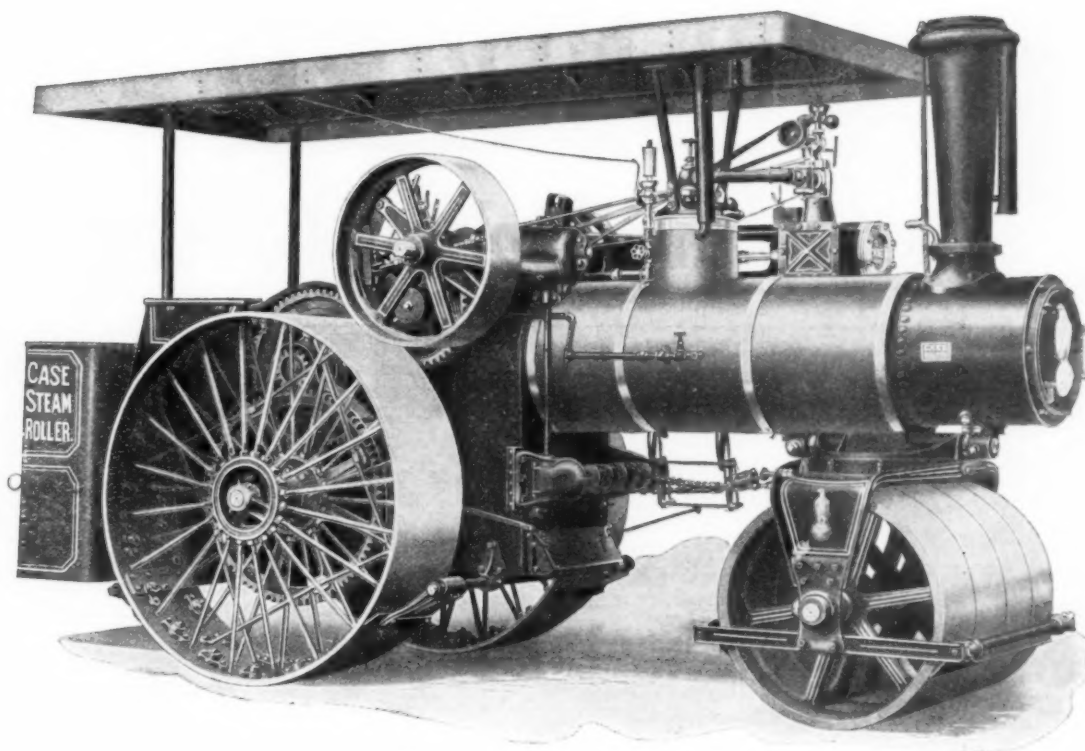
"80 EAGLES"

Brown Station, N. Y.,
Feb. 18, 1908.

Eagle Wagon Works,
Auburn, N. Y.:

Dear Sirs—We enclose herewith order for 20 two-yard Eagle Dump Wagons, similar to the 60 we have already bought from you. Yours truly,
**MACARTHUR BROS. CO.
AND WINSTON CO.**

**Eagle Wagon Works
Auburn, N. Y.**



Right side Case 10-ton steam road roller

CASE

STEAM ROAD ROLLER

**More Power, Less Fuel,
Easier to Steam, Easier to Operate**

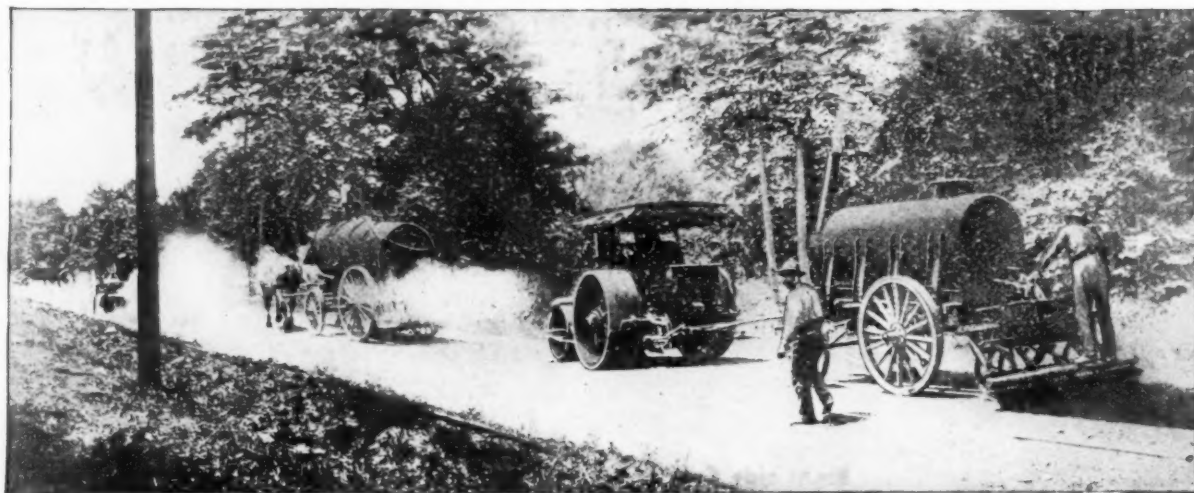
These are some of the properties that give our roller the advantage over others. A card will bring our representative who will gladly answer questions and go into other details regarding our road rollers, as well as the rest of our road machinery. The Case guarantee insures you against faulty construction. Eight thousand agents and 62 branch houses in the United States and Canada to look after your interests.

Case Road Machinery includes every appliance used in building roads. Write for catalogue "L."

J. I. CASE THRESHING MACHINE CO., Inc., Racine, Wis.

STANDARD

Macadam Asphalt Binder



Treating road with Binder "A." (For description and directions send for our new booklet.)

Standard Macadam Asphalt Binders form a road that is water-proof, solid and durable; a road that keeps an even surface and remains free from dust.

Standard Macadam Asphalt Binder "A"

Between a heavy road oil and a solid binder. Specially suitable for roads that have been stripped of the original surface, and have the top course of stone exposed.

Standard Macadam Asphalt Binders "B" and "C"

Practically solid products, to be incorporated with the road material, either by the penetration or the mixing method. "C" is slightly harder than "B"; for use under warmer climatic conditions.

Asphalt Road Oil In four grades, containing from 30% to 60% asphaltum. For use on well-made roads as they are. One application usually lasts a season.

Emulsifying Road Oil A lighter asphaltic oil, prepared to mix readily with water. Particularly serviceable as a dust preventive for parks, private estates, boulevards, etc. Requires frequent application where traffic is heavy.

New Illustrated Book Free

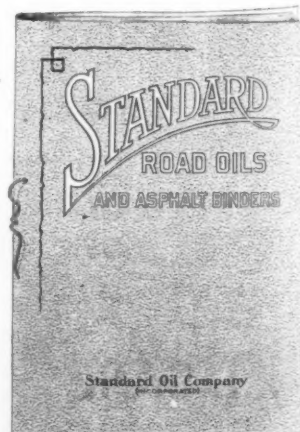
We will mail you free, upon request, our new Standard Road Oil book, 48 pages, profusely illustrated. It explains the particular uses for which the different oils are prepared and how they should be applied to give the best results.

The information it contains will be found invaluable to Supervisors; Road Commissioners; State, County and Municipal authorities; and to owners of private estates.

Standard Oil Company, Inc.

Road Oil Department

Baltimore, Md. Norfolk, Va. Washington, D. C. Richmond, Va. Charlotte, N. C.



CHANCE or SCIENCE?

WHEN the first crude railroad train, emitting showers of sparks and volumes of wood smoke, traversed its tracks at the terrific speed of six miles an hour, a great many sincere, ordinarily sober-minded men, who should have known better, went off into hysterics.

It was all wrong, they said. Man ought to move about in the natural way—as Nature intended him to do. Not in a contraption of steel and iron.

They even passed laws to limit its usefulness.

They're dead a long time and we have our railroads.

Their descendants are alive.

Those of them who are not affirming that it is unnatural, preposterous and impractical for Man to fly in airships are in the asphalt business, telling us that we should not use an improved asphalt but should stick to "natural asphalt"—Nature's own product.

In no case has an inventor done anything unnatural; he has merely applied certain natural laws so that he could control his finished product.

In the same way we can prepare asphalt from an asphaltic base petroleum and manipulate it so that the finished product is improved.

Texaco Asphalts are carefully prepared to meet the engineer's requirements.

"Natural" asphalts must be fluxed or cut back with oil in order to be of any use at all.

Texaco Asphalts are of the proper consistency for work.

They require no fluxing.

Here is no doubt as to uniformity. It is a matter of mechanical control.

With Texaco, the contractor or engineer can figure on a job with a reasonable degree of certainty as to the result.

SPECIFY TEXACO

THE TEXAS COMPANY

Paving and Roads Division

Houston

Atlanta

St. Louis

Pueblo

New York

Dallas

Boston

New Orleans

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COLUMBIAN IRON WORKS

CHATTANOOGA, TENN.

MANUFACTURERS OF

Fire Hydrants, Valves, Valve Boxes,
Sluice Gates, Meter Boxes and
Water Works Supplies

Also Municipal and Building Castings

ESTIMATES PROMPTLY FURNISHED



The Bourbon Copper and Brass Works Company

MANUFACTURERS OF

FIRE HYDRANTS and STOP VALVES

Water Works and Fire Department
Supplies and Extension Valve Boxes

Long Distance Phone, Canal 8297. 818 and 820 E. Front St., Cincinnati, O.



Wrought Washers

Cast Iron and
Galvanized Washers

Refined Bar Iron, Fire-escape Iron, Step Iron, Punched Bars and Plates

GALVANIZED BAR IRON

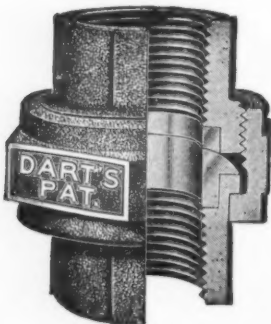
Standard or Special

NICETOWN PLATE WASHER CO.

NICETOWN
PHILADELPHIA, PA.

DART UNIONS

Have Bronze to Bronze at the
Joint—No Corrosion



This construction is embodied in our Flange
Elbow, Tee, Male and Female and Air Pump
Unions. Ask for circular and sample.

E. M. DART MFG. CO.
PROVIDENCE, R. I.

THE FAIRBANKS CO., Agents
Canadian Factory, Dart Union Co., Ltd., Toronto.

THE PETROLEUM IRON WORKS COMPANY

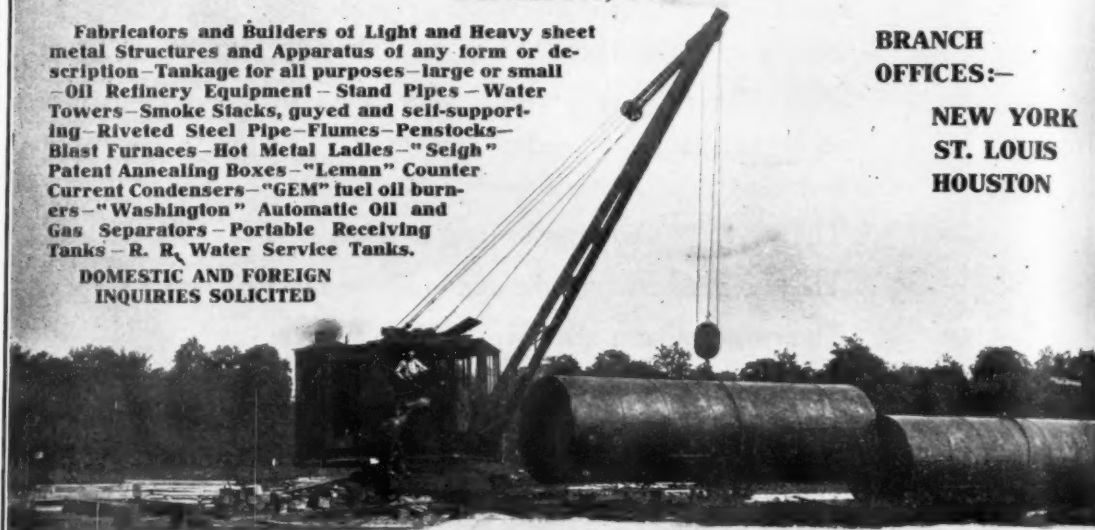
SHARON, PA.

Fabricators and Builders of Light and Heavy sheet
metal Structures and Apparatus of any form or de-
scription—Tankage for all purposes—large or small
—Oil Refinery Equipment—Stand Pipes—Water
Towers—Smoke Stacks, guyed and self-support-
ing—Riveted Steel Pipe—Flumes—Penstocks—
Blast Furnaces—Hot Metal Ladles—"Seigh"
Patent Annealing Boxes—"Leman" Counter
Current Condensers—"GEM" fuel oil burn-
ers—"Washington" Automatic Oil and
Gas Separators—Portable Receiving
Tanks—R. R. Water Service Tanks.

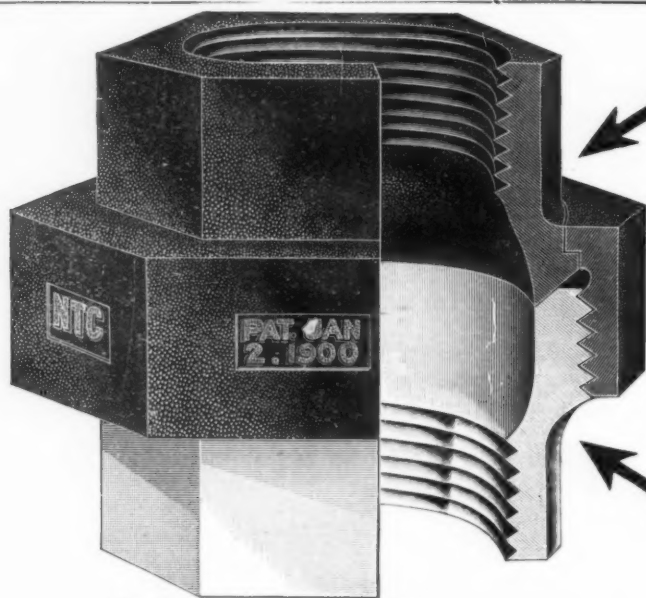
DOMESTIC AND FOREIGN
INQUIRIES SOLICITED

BRANCH
OFFICES:—

NEW YORK
ST. LOUIS
HOUSTON



Loading large shipment of 10' x 30' Single, Double and Triple Compartment Cylindrical Horizontal Oil Storage Tanks for Distributing
Stations. These tanks may be supported on brick or concrete piers or by STRUCTURAL STEEL SUPPORTS as desired.



"No Complaint
of Any Kind"

"The Union With No Inserted Parts."

- ¶ It is a general trait of human nature to grumble. At the weather, which cannot be altered to suit the individual, or at the pencil which perhaps has been bought because it "looks good" and is cheap.
- ¶ When, therefore, a user of any purchased article can state he has "no complaint of any kind to make", other users of similar material should be interested in the type of which it can be said "no complaint of any kind to make".
- ¶ As a case in point. One of our representatives recently called at the shops of a large Eastern Railroad, and the General Foreman stated when asked how he liked the "Kewanee" Union:

"I have no complaint of any kind to make on the "Kewanee" Union, and we use them exclusively. We have been solicited to change them for other types of unions, but what is the use of looking at other fittings when we are perfectly satisfied."

- ¶ The following epitome of advantages, common to all types of the "Kewanee" Union, will explain why this General Foreman quoted, as well all other users of the "Kewanee" Union are "perfectly satisfied".

(a) Brass to iron thread connection—No corrosion.

(b) Brass to iron ball joint seat—No gasket.

(c) Compressed air test under water—No defective fittings.

(d) Solid, three piece construction—No inserted parts.

(e) Easily disconnected—No force required.

SPECIAL

If your jobber does not stock "Kewanee" Unions, he can get them from his near-by neighbor, for "Kewanee" Unions and Specialties are carried in stock in practically every jobbing center in the country. DON'T ACCEPT A SUBSTITUTE—Insist on the "KEWANEE"

Our new booklet, "The Whole Kewanee Family," tells all about "Kewanee" Unions. Get a copy to keep on file. It will help you to eliminate wastes from leaky unions. A post-card brings it!

NATIONAL TUBE COMPANY

General Sales Offices
Frick Bldg., Pittsburgh, Pa.

District Sales Offices:

Atlanta Chicago Denver New Orleans New York Philadelphia Pittsburgh Portland St. Louis Salt Lake City San Francisco Seattle

Export Representatives: United States Steel Products Company, New York City

TWELVE REASONS WHY You Should Use

Trade **"LEADITE"** Mark

Registered U. S. Pat. Office

For Jointing Water Mains

1. **DURABILITY.** Leadite joints increase in strength with age.
2. **NO CAULKING.** Leadite joints require no caulking because the Leadite adheres to the pipe, making a water-tight bond.
3. **COMPARATIVE QUANTITIES.** One ton of Leadite is equivalent to four tons of lead.
4. **LABOR SAVING.** Saves caulking charges and digging of large bell-holes, and reduces the cost of trench pumping to the minimum.
5. **COST.** Its use saves 50 to 65% over lead, owing to the saving effected in material and labor.
6. **TOOLS.** As no caulking is required, fewer tools are needed.
7. **TRANSPORTATION.** Considerable freight charges are saved because Leadite is lighter than lead.
8. **HAULING.** Saves hauling expense on the work because you move only one-fourth the weight of jointing material.
9. **FUEL.** Saves fuel because you melt only one ton of material instead of four, and not as much heat is required, either.
10. **DELIVERY.** We can make prompt shipments.
11. **DAMAGE SUITS.** Claims for damages caused by joints blowing out are prevented because Leadite joints will not blow out under any pressure.
12. **USERS.** Progressive water-works all over the country use Leadite.

Write for Booklet.

THE LEADITE COMPANY, INC.
Land Title Building, Philadelphia

Cast Iron PIPE

in all regular sizes, 3 inch to 84 inch

FOR
WATER SEWERAGE CULVERTS
GAS DRAINS Etc.

FLANGED PIPE FLEXIBLE JOINT PIPE
SPECIAL CASTINGS LARGE CYLINDERS
HEAVY CASTINGS

United States Cast Iron Pipe & Foundry Co.

GENERAL OFFICES: 71 BROADWAY, NEW YORK

WORKS AT

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BESSEMER, ALA. CHATTANOOGA, TENN. COLUMBUS, OHIO

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Philadelphia Sales Office, 1421 Chestnut St., Philadelphia.

Pittsburgh Sales Office, Henry W. Oliver Bldg., Pittsburgh.

Western Sales Office, 122 So. Michigan Boulevard, Chicago.

Southern Sales Office, Chamberlain Bldg., Chattanooga, Tenn.

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Glamorgan Pipe & Foundry Co.

LYNCHBURG, VA.

Manufacturers of



FOR WATER AND GAS

SPECIAL CASTINGS

Flanged Pipe and Flanged Specials

General Founders and Machinists

GLAMORGAN



HYDRANTS.

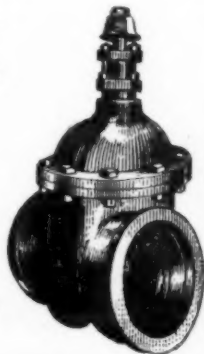
Glamorgan "Patented"
Compression Hydrants
Gate Hydrants

VALVES

FOR

Water, Gas and Steam

GLAMORGAN



VALVES.

We solicit inquiries for Grey Iron Castings
of any description.

CAST IRON PIPE FOR WATER AND GAS WORKS

McWANE PIPE WORKS

LYNCHBURG, VA.

2 Rector Street, NEW YORK



AMERICAN CAST IRON PIPE CO.

Manufacturers of

CAST IRON PIPE AND FITTINGS.

BIRMINGHAM

ALABAMA

Western Office—718 Scarritt Bldg., Kansas City, Mo.

Eastern Office—56 Liberty St., New York.

AMERICAN PIPE & CONSTRUCTION CO.

ENGINEERS AND CONTRACTORS FOR

WATER-WORKS

No. 112 NORTH BROAD STREET, PHILADELPHIA

Manufacturers of PHIPPS' HYDRAULIC PIPE

It Carries More Water For Its Diameter Than Any Iron Pipe



WYCKOFF WOOD PIPE is not impaired by the effects of electrolysis, acid fumes or corrosion. It is light, strong and very durable.

Lengths, 6 ft. to 12 ft. long.

Size for size, it carries 14% more water than iron pipe.

Costs less for transportation, because it is lighter and easier to handle.

May we send Catalog giving fullest details?

A. WYCKOFF & SON CO.

Established 1855

Elmira,

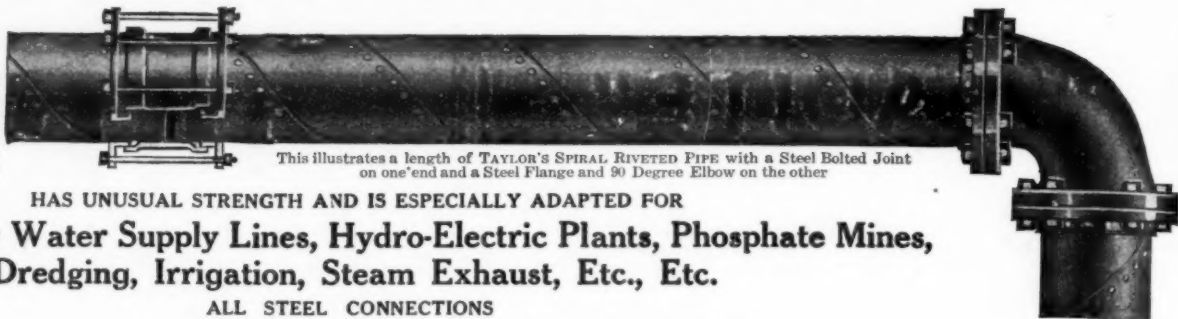
New York

Southern Plant and Office, ALEXANDRIA, LA.

Oklahoma and Texas Sales Office, 911 Praetorian Bldg., DALLAS, TEX.

TAYLOR'S SPIRAL RIVETED PIPE

Made from
3" to 42" inside
Diameter
Up to 1/4" Thick



This illustrates a length of TAYLOR'S SPIRAL RIVETED PIPE with a Steel Bolted Joint on one end and a Steel Flange and 90 Degree Elbow on the other

HAS UNUSUAL STRENGTH AND IS ESPECIALLY ADAPTED FOR

Town and City Water Supply Lines, Hydro-Electric Plants, Phosphate Mines, Dredging, Irrigation, Steam Exhaust, Etc., Etc.

ALL STEEL CONNECTIONS

Our New 80-page Catalogue 5-H is a Money Saver. Sent Free.

AMERICAN SPIRAL PIPE WORKS, Main Office and Works, CHICAGO

New York Office,
50 Church Street

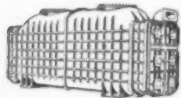
Do You Ship Goods To the South?

We can save you the difference between carload and less than carload freight. We give you the advantage of a branch office at nominal expense.

Manufacturers Distributing Agent

CANDLER WAREHOUSE COMPANY
ATLANTA, GA.

WHEELER CONDENSER & ENGINEERING CO.



Manufacturers of Surface, Jet and Barometric Condensers, Feed Water Heaters, "Vois" Combined Surface Condenser and Feed Water Heater, Rotative Dry Vacuum Pumps, Centrifugal Pumps, Edwards Air Pumps, Wheeler-Barnard Water-Cooling Towers.

CARTERET, N. J.

NEW ORLEANS NEW YORK ATLANTA



S. MORGAN SMITH CO., York, Pa.
Hydraulic Engineers.

MANUFACTURERS OF
MCCORMICK TURBINES.

See Illustrated ad. in last and next issues.
Branch Offices—176 Federal St., Boston.
Chicago Office, 644 American Trust Bldg.

Wire Stapling Machinery

For Fruit Packages, Baskets, Crates, Barrels, Butter Dishes, Boxes, etc.
Currgated Joint Fastener Driving Machinery.

SARANAC MACHINE CO.
ST. JOSEPH, MICH., U. S. A.

TURBINE WATER WHEELS

Highest efficiency
Both CYLINDER and REGISTER gate
Write for catalog

Davis Foundry & Machine Works
ROME, GA.



DOWNIE DOUBLE STROKE DEEP WELL PUMPS

Steam or Electric Driven or Geared from shaft are offered for service in elevating large quantities of water from deep Artesian Wells. Single Stroke Pumps for lighter deep well work. Catalog No. 6.

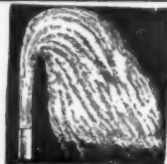
Keystone Pump & Well Engine Co.
BEAVER FALLS, PA.

American Valve & Meter Co.
CINCINNATI, OHIO.

Manufacturers of

RAILROAD STAND PIPES.
RAILROAD TANK VALVES AND TANK FIXTURES.
FLOAT OR AUTOMATIC INLET VALVE FOR TANKS.
SWITCH STANDS FOR ALL PURPOSES.
WATER METERS.

Write for Catalogue.



Established 1885
Have a WELL at your flowing plant and protect employees' health. We'll drill it. Write HUGHES SPECIALTY WELL DRILLING CO.
96 Ashley Ave.
Charleston, S. C.
Booklet

Well Drilling Machines

Over 70 sizes and styles, for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on sills. With engines or horse powers. Strong, simple, durable. Any mechanic can operate them. Send for catalog.

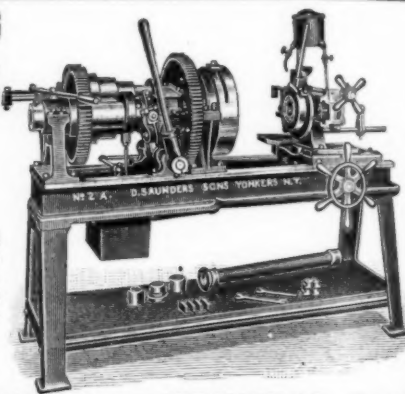
WILLIAMS BROS.,
ITHACA, N. Y.

PIPE CUTTING AND THREADING MACHINES

All Sizes for Pipe Mills
Gas and Steam Fitters

This cut shows our No. 2A Improved Pipe Threading, Cutting and Nipple Machine. Range 1/4 to 2, inclusive. Pipe can be gripped or loosed without stopping the chuck, by a simple movement of the lever.

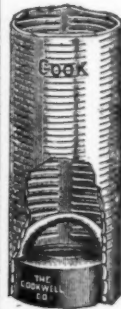
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D. SAUNDERS' SONS, Inc., YONKERS, N. Y.

The Cook Well Co.

No. 13 S. 4th St.
ST. LOUIS, MO., U. S. A.



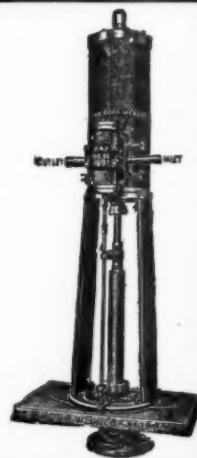
Cook's System of Wells

For Cities, Towns, Villages, Railroads, Ice Plants, Breweries and Manufactories.

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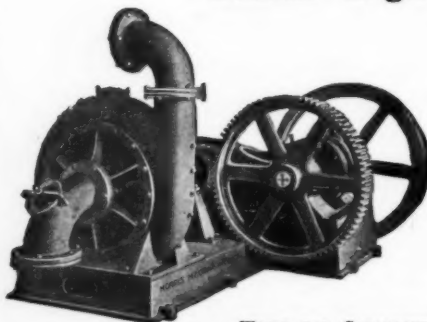
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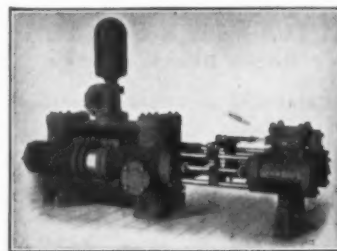
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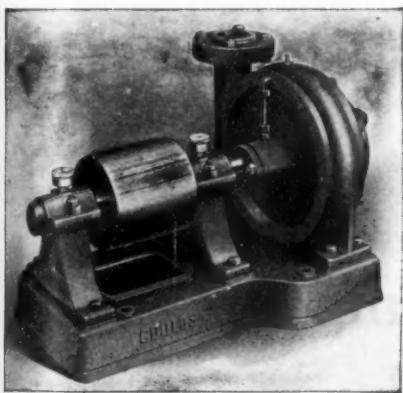
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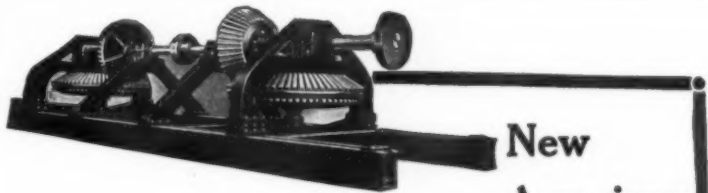


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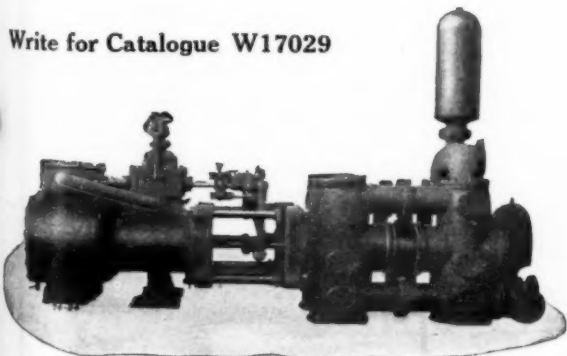
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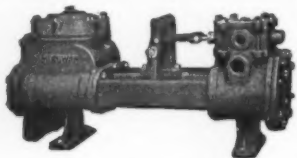
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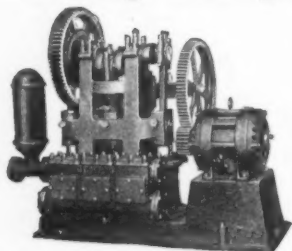
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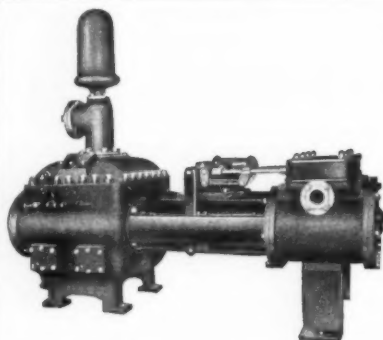
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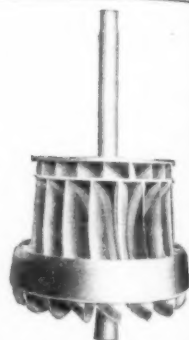
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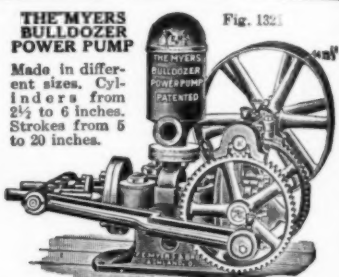
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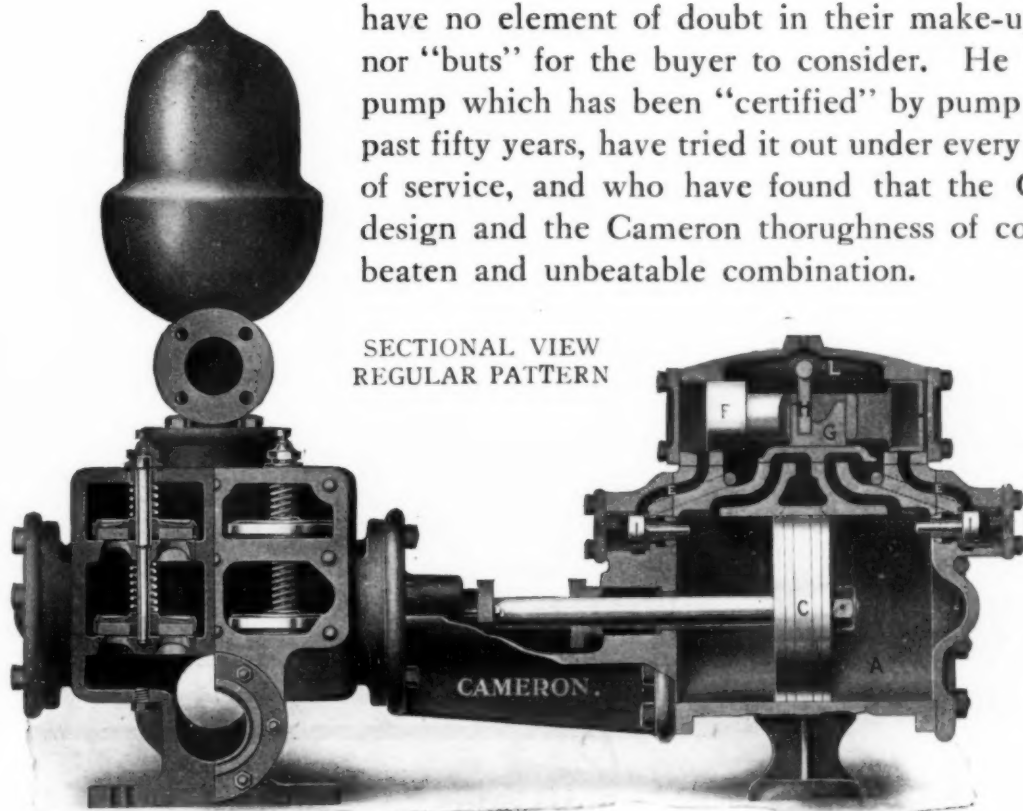


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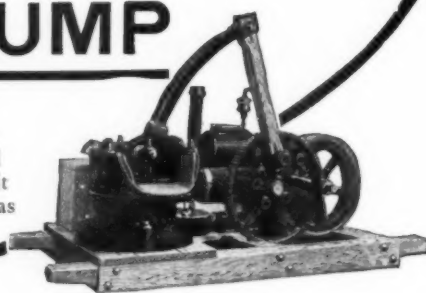


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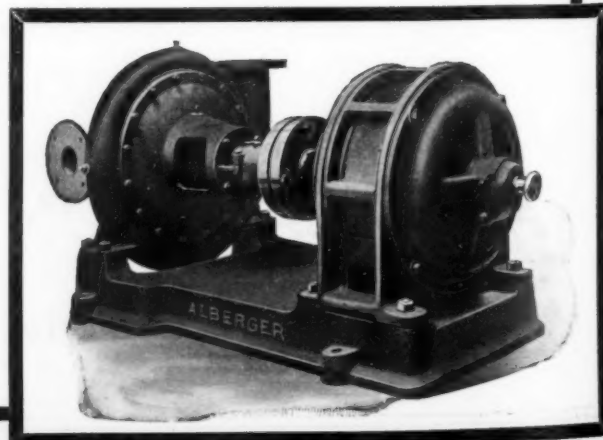
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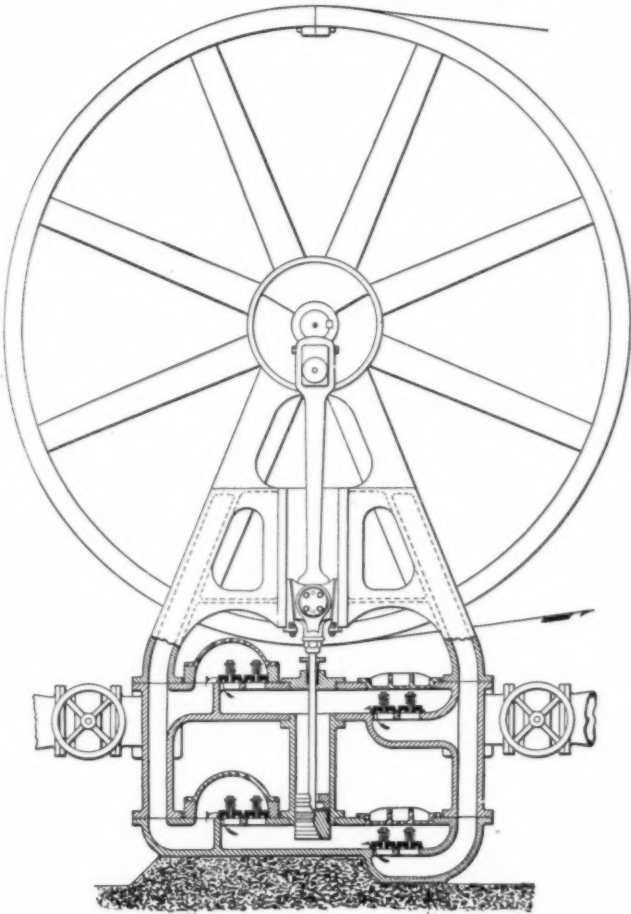
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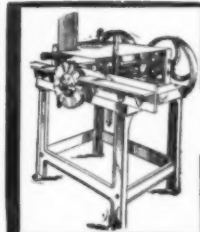
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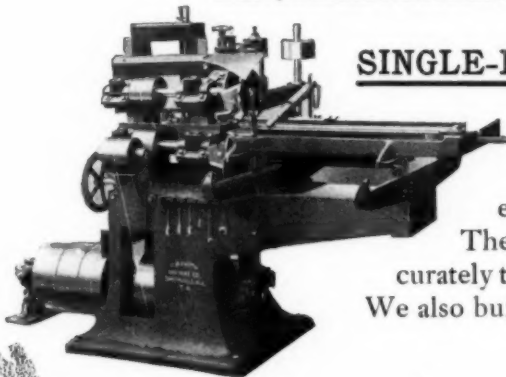
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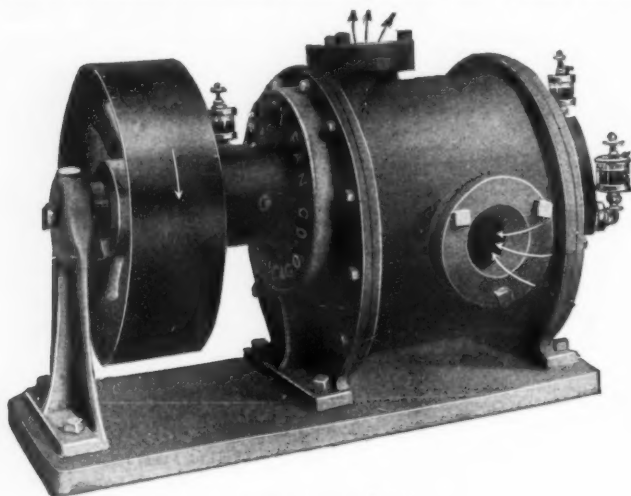
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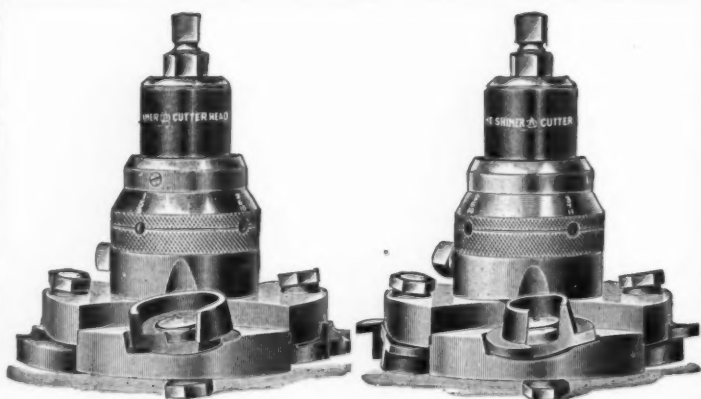
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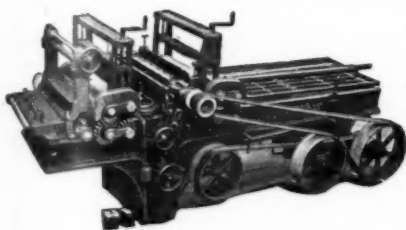
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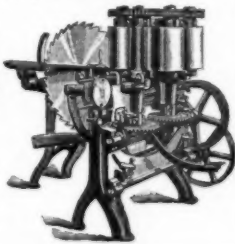
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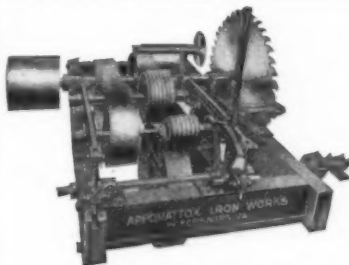
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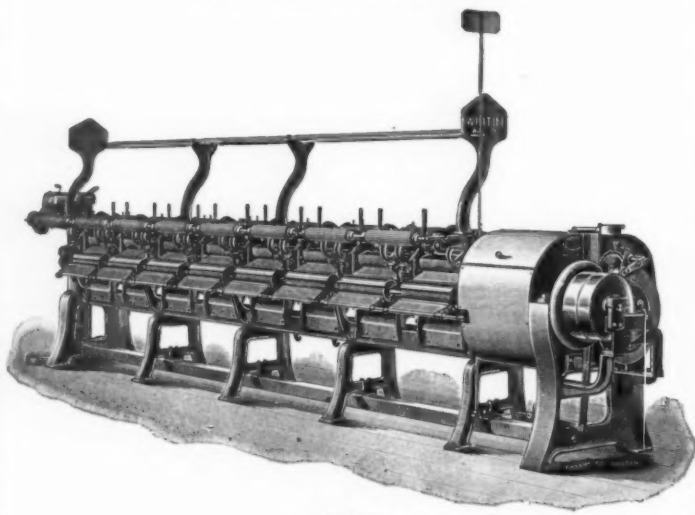
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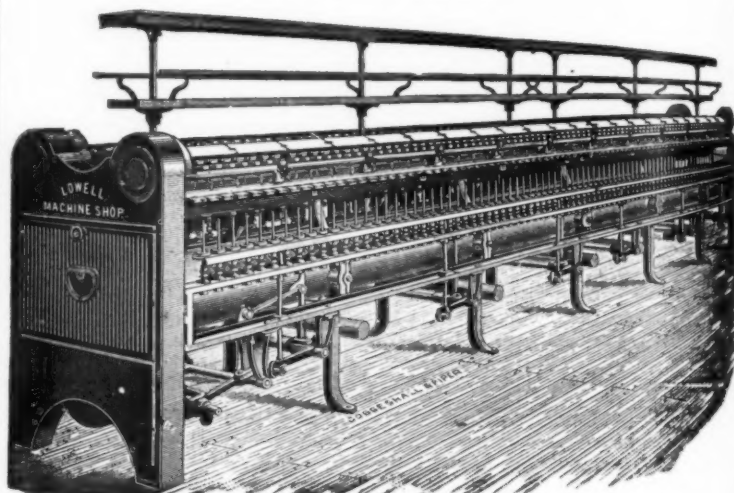
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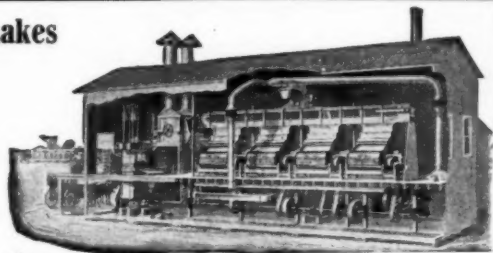
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American Supply Co.
PROVIDENCE, R. I.

Revolving
Flat
Cards,
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Frames,
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SACO-PETTEE COMPANY
NEWTON UPPER FALLS, MASS., U. S. A.
COTTON MACHINERY

Shops: Biddeford, Me.
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Slubbing,
Intermediate
and Roving
frames,
Spinning
Frames,
Spoolers
and Reels

ESTABLISHED 1873.

WHITINSVILLE SPINNING RING CO.

Our Patented Specialties.
DOUBLE RIBBED RINGS, U.S.
STANDARD TRAVELER CLEANERS.
METALLIC BURNISH LINE
THAT PRODUCED BY
THE TRAVELER.

WHITINSVILLE, MASS. U.S.A.

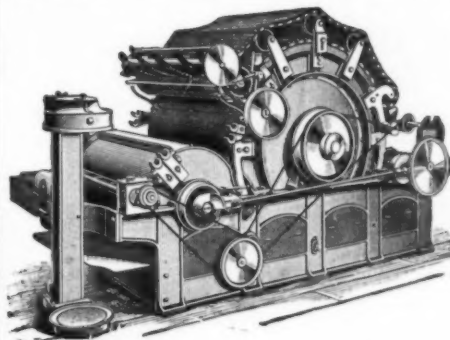
Lowell Crayons Still in the Lead

Although cotton, woolen and worsted mills are more and more exacting, the Lowell Crayon still pleases them; it's still in the lead.

LOWELL CRAYON CO.,
Original Makers

LOWELL, MASS.
Trade Mark on Every Box.

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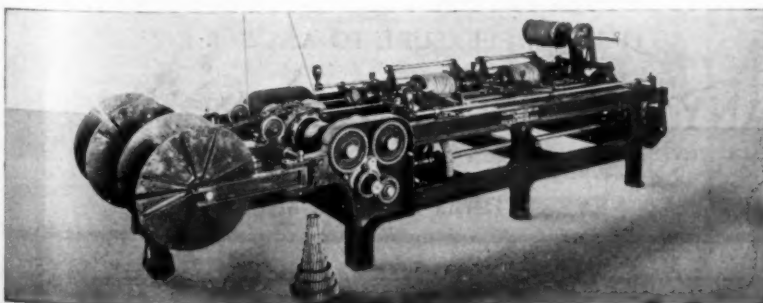


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MASON MACHINE WORKS,
TAUNTON, MASS.

Southern Office - - - CHARLOTTE, N. C.

COTTON, TWINE AND ROPE MACHINERY



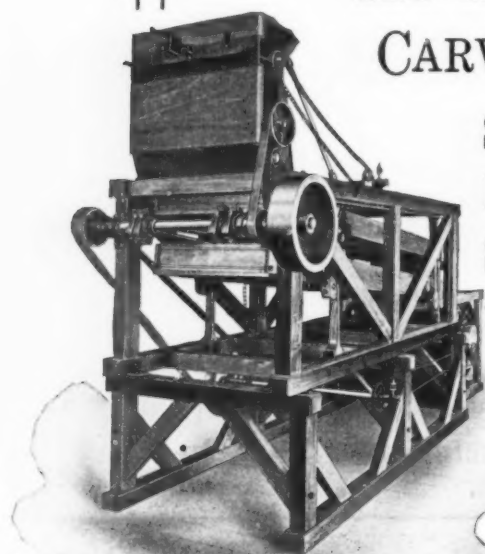
The Haskell-Dawes Machines are built upon a New Principle, whereby the most Positive Results are secured. They occupy less space than the ordinary type of machines, require Less Relative Power and will turn out a Much Larger Product of Twine and Rope.

The Special Attention of Cotton Manufacturers is called to our new Forming and Rope-Laying Machines.

Descriptive Catalogue sent on Application.

The Haskell-Dawes Machine Co.
176 FEDERAL STREET, BOSTON, MASS.

Saves Space
and Machinery
CARVER



**SAND AND
BOLL
SHAKER**

(With Seed
Cleaner)

Combines
feeder, sand and
boll shaker, and
seed cleaner, all
in one machine.
Makes seed-
house clean, and
saves valuable
space.

If wanted, we
furnish it with a
feeder minus a

beater roll, which reduces height of machine one foot.

Two sizes, 60 and 120 tons.

Let us tell you all about it.

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Atlanta, Office,
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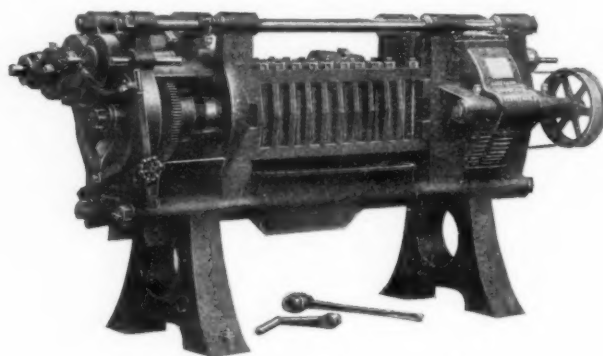
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**Better Oil, Better Cake,
Lower Operating Cost.**

This is a Winning Combination

Installations throughout the South are steadily increasing, and if you will look into the facts you will easily see why. Works whole seed or separated meats



Each machine is an unit in itself, and to increase your equipment, all you have to do is to add units. Let us tell you all about it.

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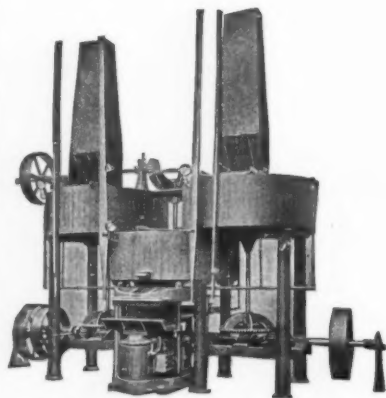
Western Engineering Co., Dallas, Tex.
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**Unusual Superiority
Makes for the Success of
CALLAHAN**

IMPROVED

COOKING HEATERS

FOR OIL MILLS



CALLAHAN

**Material and Workmanship
GUARANTEED**

GET FULL FACTS

**IT'S OUR PLEASURE TO ANSWER INQUIRIES
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THE W. P. CALLAHAN COMPANY

DAYTON, OHIO

REPRESENTATIVES: |

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PROMPT SHIPMENTS

EVERYTHING FOR OIL MILLS

Adopted by majority of
Cotton Mills
as a cleanser having the
Best Value.

SAVOGRAN

U.S. GOV'T STANDARD CLEANING POWDER.

Accepted as the most economical and efficient for all cleansing purposes.
INDIA ALKALI WORKS
BOSTON, MASS.
Makers for 36 Years.



The American Cotton Oil Co.

27 BEAVER STREET,

CORRESPONDENCE ADDRESS:
"AMCOTOIL," NEW YORK.

NEW YORK CITY.

COTTONSEED PRODUCTS

OIL, STEARINE, CAKE, MEAL, LINTERS, ASHES, HULLS.

The Celebrated **I. X. L. COOKING OIL.**

The **STANDARD** and the **BEST.**

Made in Refineries at
NEW YORK, CINCINNATI, ST. LOUIS, MEMPHIS, NEW ORLEANS.
Pure Food Law Guaranteed under Serial No. 2593.

Special Hydraulic Presses

DESIGNED TO MEET REQUIREMENTS.

WE MANUFACTURE A FULL LINE OF COTTON SEED OIL MACHINERY.
ACCUMULATORS, AIR, AND HYDRAULIC. FULL LINE OF SMOKING AND PLUG TOBACCO MACHINERY.

THE CARDWELL MACHINE CO., Richmond, Va., U. S. A.

The Mecklenburg Iron Works

Will be glad to answer all correspondence from parties who need or expect to need

**Machinery for Handling
GOLD, IRON OR COTTON,**

as they have been manufacturing such machinery for thirty years, and can give entire satisfaction. Their address is

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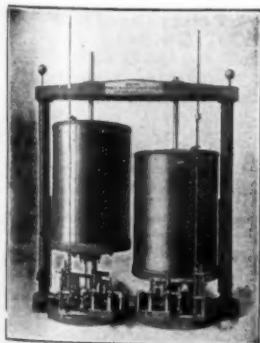
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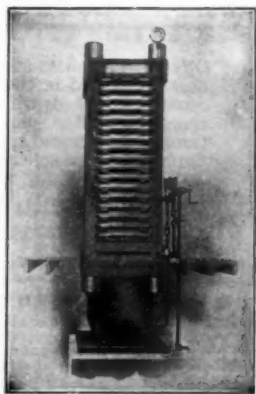
COTTONSEED OIL MILL AND LINSEED OIL MILL MACHINERY

OF ALL KINDS



ACCUMULATOR

Hydraulic
Presses,
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Cake Formers,
Meal Cookers,
Hulling
and
Cleaning
Machinery,
Cake Breakers,
Attrition Mills,



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**ACCUMULATORS—The Most Perfect System of
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THE VERY LATEST IMPROVEMENTS AND THE VERY BEST

Cottonseed Oil Machinery

(Not in Any Combination or Trust)

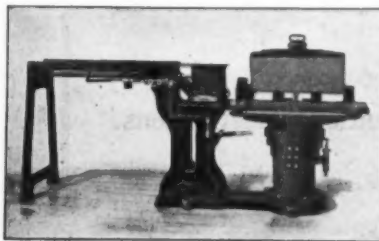
Modern Ginning Systems

Write for Catalogue

Van Winkle Gin & Machine Co.

Atlanta, Ga., U. S. A.

COMPLETE LINE OF
Cottonseed Oil Mill Machinery for the Press Room



Continuous Cookers, Improved Rolls, Steel Presses and Safety Press Boxes, Hydraulic Former, Change Valves, Power Pump, Accumulators.

THE FRENCH OIL MILL MACHINERY CO.

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Cities, Towns and Railroads Inviting Factories.

UNUSUAL BUSINESS OPENINGS

In Missouri, Arkansas, Louisiana and Texas, along the lines of the Cotton Belt Route, there are extraordinary openings for almost every line of business. There is absolute need for some industries account of the rapid development of the country.

The unlimited supply of timber makes the establishment of box and crate factories, furniture, sash, blind, handle, hoop and stave factories, etc., especially inviting.

ALONG THE COTTON BELT

Canning factories and ice plants are also greatly needed to take care of the big crops of fruits and vegetables. There is practically no business or industry for which there is not an unusual opportunity in Cotton Belt territory. The Agricultural and Industrial Department of the Cotton Belt will give you detailed and accurate information about these openings, on request. If you are interested in any certain business, let us know and we will make a special effort to advise you along that particular line.

WRITE TODAY TO
GUY L. STEWART, Agrl. and Ind. Agent
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Choice Factory Sites and Farm Lands

ALONG THE
DOUBLE TRACK RICHMOND-WASHINGTON LINE

Equable Climate Good Schools Reasonable Labor
Lowest Freight and Passenger Rates
Splendid Transportation Facilities

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Richmond, Fredericksburg & Potomac Railroad,
and Washington Southern Railway. ASHLAND, VIRGINIA

HUNTINGTON WEST VIRGINIA

Population 31,161

An Increase of 161% Since 1900

Gives the manufacturer the best possible conditions for successful production and distribution.

Cheap fuel, including natural gas.

Adequate labor supply.

Shipping facilities comprise both rail and water.

Fine residential center.

Unexcelled educational institutions.

For particulars, write

H. E. MATHEWS, Secretary Chamber of Commerce

LOTS HOUSTON, TEX. LOTS

Houston Harbor Addition

"Where the Ships Stop"

The big new factory addition to Houston, at the terminal of the great ship channel. On the harbor. At this spot 17 railroads meet the sea. Only 3½ miles from the court house in best city in the South; prices low; terms 5% down, 5% per month; no interest or taxes. The Company owning and developing "Houston Harbor" is composed of Houston's bankers and leading business men.

Write us for our literature and then reach your own conclusions.

This is the best investment in the South today.

Free Factory Sites to Responsible Factories.

Unexcelled Rates and Shipping Facilities. We want good factories.

324 First Nat. Bank Bldg. **A. D. ALDERSON CO.** Houston, Texas
A. D. ALDERSON G. K. FORCE
General Agents

For the Manufacturer or Wholesaler FAYETTEVILLE, N. C.

offers many peculiar advantages, such, for instance, as location and low freight rates, both incoming and outgoing.

In the midst of a fine timber section, any and all kinds of woodworking industries will pay. A BLEACHERY will yield handsome profits.

Fayetteville, North Carolina, is the logical point for the wholesale and jobbing trade, for as a distributing point it controls all Eastern North Carolina and the best portion of South Carolina.

Special inducements offered to those locating manufacturing plants here.

For further information address

Z. P. SMITH, Secretary Chamber of Commerce, Fayetteville, N. C.

MORGAN CITY, LA.

with splendid deep water harbor, 12 miles from Gulf of Mexico, also on Southern Pacific Railroad main line, challenges comparison as advantageous

SITE FOR INDUSTRIES

In addition to most favorable water and rail transportation facilities, there are vast supplies of cypress, gum and other woods contiguous, affording attractive opportunities for woodworking establishments. Proof, successful plants now here.

Many other opportunities include canneries for fish, oysters and vegetables.

FREE SITES FOR FACTORIES

Write WILLARD DITCH, Owner of Ditch's Annex
MORGAN CITY, LA.

The Thriving Towns of Georgia

Offer opportunities and untold advantages for every line of business. Situated in the heart of the great COTTON BELT, in a country that is growing by leaps and bounds and knows no hard times, they offer splendid inducements to merchants, manufacturers, professional men and every man that is willing to work. Correspondence solicited.

Georgia Bureau of Industries & Immigration
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TRUNK FACTORY WANTED

There is available in a progressive town of twenty-five hundred population in Eastern Virginia a building suitable for the manufacture of trunks. There also is a large amount of machinery in this building which would be suitable for this purpose. To the person or persons who have a knowledge of the trunk business and are in a position to command some capital, this affords an excellent opportunity to enlist the co-operation of local people and establish a large and profitable enterprise. If interested, write File M-3639, care of F. H. LaBaume, Agricultural and Industrial Agent, N. & W. Ry., Roanoke, Virginia.

OPPORTUNITY TO PURCHASE PROFITABLE CARRIAGE FACTORY

In a progressive city of five thousand population in Southwest Virginia is a carriage factory which has been in successful operation for thirty-five years. On account of age of proprietors they desire to dispose of their business or organize it into a stock company. This is a good opportunity for carriage makers with some capital to secure a profitable business in a desirable location. For further particulars write File M-3746, care of F. H. LaBaume, A. & I. Agent, N. & W. Ry., Roanoke, Va.

There are other opportunities for the purchase of mineral, timber and agricultural lands, also industrial possibilities at numerous points along the Norfolk & Western Railway.

Write F. H. LaBaume, A. & I. Agent, Roanoke, Va., for desired information



Texas City, Texas

"Where the Greatest Rail Commerce of the World Must Meet the Greatest Water Commerce of the World"

IT is a generally recognized fact that the great Southwest, and especially the Gulf Coast country of Texas, is now enjoying an era of commercial and industrial development such as has never been known in any section of the country before.

This is not a temporary movement, but grows more active with each passing month.

Do you know the reason why?

The vast, and as yet practically untouched, resources of this section are beginning to attract the attention of capital. Lack of rail and water transportation facilities has rendered it almost impossible heretofore to exploit them. Today a great transformation is taking place.

The railroads of the country are awakening to the fact that, with the opening of the Panama Canal, the tremendous traffic of the South and Southwest will seek an outlet to the sea by way of the Gulf of Mexico. In anticipation of this move—which is even now well under way—they are improving and extending their lines toward the sea.

Waterfront property all along the Gulf Coast is being developed for harbor and terminal purposes.

Result—

Millions upon millions of acres of prairie lands are being converted into farms. Thousands upon thousands of people, lured by the exceptional opportunities to be found here, are pouring into the State every year.

Cities and towns are springing up as if by magic.

A great and growing demand for factory-made goods is being developed.

Factories of every description are building, and the whole territory is developing into an ant heap of human activity.

Texas City, Texas, by reason of its strategic position; the remarkable development of its waterfront for harbor and terminal purposes; the installation of the most modern and comprehensive dock, warehouse and terminal facilities, and the fact that nearly all of the railroads of Texas have their termini at or in the vicinity of this place, is now recognized as "the core of the Gulf Ports movement," and offers the manufacturer opportunities and advantages that cannot be found elsewhere.

Factories of Every Description are a Pressing Necessity of the Great Southwest

By reason of the remarkable development, the tremendous increase in population, and the general forward movement of this section, a great and growing demand for factory-made goods is being created. The factories already located here are unable to keep up with this demand, notwithstanding that they are constantly enlarging and improving their plants. Factories, therefore, are a pressing necessity of this territory. A great many are now locating here, but the field is practically unlimited.

No cash or similar bonuses are offered industries to locate at Texas City. Only self-sustaining institutions are encouraged. To these the Texas City Company, and other companies, offer a few attractive inducements; such as free factory sites, free artesian water, cheap fuel, cheap electrical power, low storage rate and low insurance rate on same, low freight handling charges, and similar other inducements, all of which are of direct benefit to the manufacturer.

COMPARATIVE STATEMENT
of Reg. Tonnage and Tons Cargo of
Vessels
1904 to 1910

	Reg. Tons	Tons Cargo
1904	15,171	8,712
1905	82,214	76,007
1906	102,489	84,315
1907	102,504	77,459
1908	164,203	159,835
1909	234,708	180,003
1910	441,943	352,472

Note These Figures

The figures to the right and left serve as an index to the increase in shipping via Texas City during the six years from 1904 to 1910. Here is an increase in one item alone of over forty-seven hundred per cent. in six years. It is confidently believed that the value of the commerce via Texas City for 1911 will exceed ONE HUNDRED MILLION DOLLARS.

COMPARATIVE STATEMENT
of Shipping via Texas City
1904 to 1910

	No. Vessels	Value of Cargoes
1904	12	\$ 988,428
1905	87	3,774,515
1906	115	5,738,094
1907	138	6,867,775
1908	199	22,875,732
1909	208	34,138,444
1910	239	47,113,752

Literature Distributed by

Texas City Transportation Co.

Texas City, Texas

A WONDERFUL FIELD

The Broad Diversified Industrial Possibilities of the Baltimore & Ohio Territory in West Virginia

The lines of the Baltimore & Ohio Railroad traverse a section of West Virginia that is rich in natural resources of great variety.

Outside of coal and timber these resources have, comparatively speaking, been but little developed. From reports of the State Geological Survey it is shown that there are extensive deposits of limestones, clays, iron ores and glass sands, all of which are invaluable to many diversified industries.

Coupled with these is, so far as known, an inexhaustible supply of natural gas that is sold to manufacturers for from 4 to 10 cents per 1000 cu. ft.

Without question this part of the Baltimore & Ohio territory is eventually to become, from an industrial and traffic-producing point of view, one of great importance and broad scope.

Already capital and industry are being attracted to this section, and new plants are continually being established.

When it is considered that the main line of the Baltimore & Ohio from the Atlantic Seaboard to the West passes through West Virginia, and consequently connects it with the important markets of this country as well as those of foreign countries, it requires no exaggeration to predict the future possibilities of this section.

Already the Baltimore & Ohio has modern equipment extending through all sections of its West Virginia territory, in order to take care of that State's great coal and timber industries, so that excellent established shipping facilities are available to those locating new industries, and its track and rolling stock are maintained at a point of highest efficiency to keep pace with the development taking place.

The Baltimore & Ohio, through its Industrial Department, always co-operates with those seeking to become identified with its territory, and full information will be furnished regarding its resources and opportunities.

Baltimore & Ohio Railroad

W. W. Wood, Industrial Agent

Baltimore, Md.

THE SOUTH'S "GARDEN SPOT" IS TRAVERSED BY THE ATLANTA, BIRMINGHAM & ATLANTIC RAILROAD

Lands are reasonable in price, very fertile and adaptable to the widest range of crops. Splendid climate and excellent church and school advantages. The territory is attracting general attention throughout the country.

Those desiring to locate will do well to communicate early. Inquiries are invited and literature treating fully with the population, soil conditions, etc., will be promptly mailed.

W. H. LEAHY

GENERAL PASSENGER AGENT

ATLANTA, GA.

THE West Point ROUTE

Atlanta & West Point R.R.

THE WESTERN
RAILWAY OF ALABAMA

Offers excellent locations for

Truck, Fruit, Stock

And General Farming

Available Factory Sites, Abundance of Raw Material and Good Transportation Facilities.

Write for information.

R. E. LUTZ

General Agent

MONTGOMERY, ALABAMA

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Free books of information issued by the

Illinois Central

Railroad Company. Illustrated sixty-four-page book entitled "ABOUT THE SOUTH," in which important questions are tersely answered in brief articles of interest to Southern Immigration along the lines of the Illinois Central and Yazoo & Mississippi Valley railroads in the States of Kentucky, Tennessee, Mississippi and Louisiana. Also illustrated book entitled

RECLAIMED LANDS OF LOUISIANA MAKE FERTILE FARMS

Another illustrated pamphlet, describing in detail the resources and possibilities of the richest valley in the United States, is one entitled

THE YAZOO MISSISSIPPI VALLEY

Brand new 20-page illustrated book,

LIVE STOCK INDUSTRY in the SOUTH

In addition to the above, the following pamphlets are free for the asking:

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MADISON COUNTY, MISSISSIPPI
GRENADA COUNTY, MISSISSIPPI
ALFALFA SUCCESSFULLY GROWN IN
MISSISSIPPI

WEST TENNESSEE

Everyone who would like a Southern home or investment should have a copy of one or all of these books. They contain a number of very interesting letters written by Northern farmers, who are now happily located in the South.

For free copies address

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exist for MANUFACTURERS, HOMESEEEKERS, FRUIT GROWERS and many other industries along the lines of the CENTRAL OF GEORGIA RAILWAY in

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It penetrates the most fertile and best manufacturing and industrial sections of Georgia and Alabama, and furnishes easy and quick transportation at reasonable rates.

Specific information regarding any particular line of industry furnished on application.

CENTRAL OF GEORGIA RAILWAY

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Just For Woodworkers

The woods are full of them—oaks, hickories, poplars, ash, elm, maple, chestnuts, gums, locust, dogwood—waiting to be used up by enterprising and ready-handed mill men, and the best locations on the Southern Railway lines at particular points where such men are wanted to manufacture all kinds of furniture, vehicles, implements, building supplies, handles, spokes, bobbins, spindles, spools, cross-arms, staves, slack and other barrels, crates and boxes, whip stocks, and all the little articles made from these woods and from waste. Your best opportunity; seize it. For specific information address

M. V. RICHARDS

Land and Industrial Agent, Southern Railway

1375 Pennsylvania Avenue

WASHINGTON, D. C.

UNUSUAL TIMBER OPPORTUNITY

In Georgia near a port we have between 60 and 75 million feet of timber, three-fourths pine and balance hardwood. We can also arrange for nearby band mill to be included, enabling immediate operations. With the mill are locomotives, rail and skidders.

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General Industrial Agent

Seaboard Air Line Railway

NORFOLK, VA.

Excellent Location For Pulp, Paper and Acid Plant

Everything Available Raw Material and Transportation

There are millions of cords of pulp and acid wood, including hemlock, poplar, spruce, chestnut, pine, etc., in the practically virgin timber lands adjacent to the Clinchfield Route.

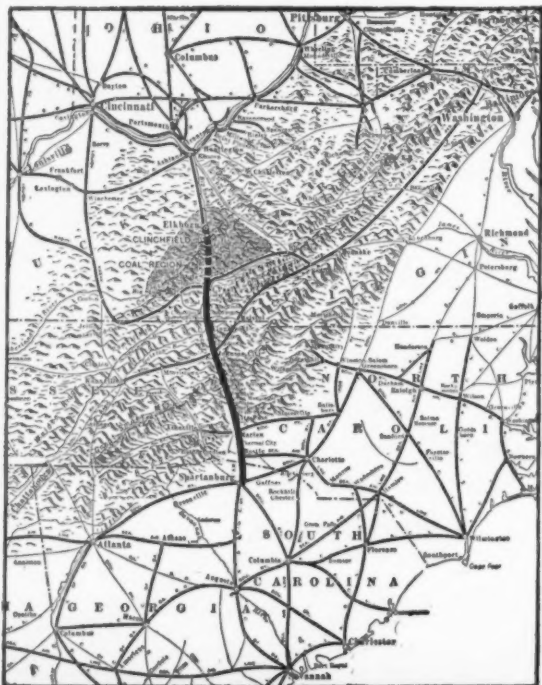
Pulp and acid wood plants located at convenient points along the line could draw raw materials in abundance from both directions.

One especially fine location is available. Here not only is the rate on coal only 50 cents a ton, but nearby a hydro-electric plant could be established to develop 3,000 horsepower. While within ten miles is a deposit of dolomite, from which dolomitic lime could be obtained for use in the manufacture of paper.

Located at this point a combination pulp, paper and acid plant would have the following desirable qualifications: Abundance of raw materials in the immediate vicinity, power at a minimum cost, facilities for profitably utilizing valuable waste products, plentiful white labor, an ideal climate and excellent railroad facilities for broad distribution.

The opportunity is an exceptional one.

Investigate now,



Send for our illustrated booklet, "The Land of Opportunities," which gives a general description of the resources of the wonderful country traversed by the Clinchfield.

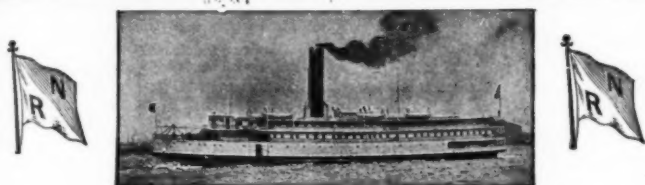
Carolina, Clinchfield & Ohio Rwy.

"THE ROAD OF OPPORTUNITY"

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R. F. Brewer,
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Johnson City, Tenn.



When Going from Baltimore to Norfolk

you naturally want to use the safest, speediest, most modernly appointed steamers—the ones furnished like up-to-date, luxurious homes. If so,

USE THE CHESAPEAKE LINE

Two new queens of the Chesapeake, the City of Baltimore and the City of Norfolk, every day, including Sunday, between Baltimore and Norfolk, stop at Old Point Comfort en route, connecting with rail lines for all Southern points. Running water and intercommunicating telephones in each room. Staterooms equipped with shower baths and others connecting with baths. Wireless telegraph aboard. Cuisine unsurpassed. No trouble spared for passengers' comfort.

YORK RIVER LINE three times a week for York River landings, West Point and Richmond.

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Opposite South Terminal Station.
BOSTON, MASS.

European Plan.
Rates Moderate.
Absolutely Fireproof.
Free Transfer Baggage from and to Station.
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THE HAMMOND HOTELS
F. A. HAMMOND, President.

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OLD BAY LINE,
FOR OLD POINT COMFORT, NORFOLK,
AND PORTSMOUTH,
CONNECTING WITH ALL RAIL LINES
SOUTH AND WEST.

THROUGH TICKETS TO ALL POINTS.
Freight received and forwarded every week-day, and Bills of Lading issued to all points South and West and for Richmond, Norfolk, Portsmouth, Old Point Comfort and Mathews and Gloucester Landings. Splendid Steamers Florida, Virginia or Alabama—finest south of New York, equipped with United Wireless Telegraphy. Leave Company's Pier, Light St., foot of Barre St., daily, including Sunday, at 6.30 P. M.

Tickets to all points and staterooms reserved at Ticket Office, 107 E. Baltimore St.; S. A. L. Ry. Ticket Office, Baltimore and Calvert Sts.; Albaugh's, 3 E. Fayette St., and at 600 Light St.

P. BYRD THOMPSON,
Traffic Manager.
JAMES E. BYRD,
General Passenger Agent.
JOHN R. SHERWOOD,
President and General Manager.

YOUR FACTORY

may not be operating at an entirely satisfactory location.

YOUR INVESTMENTS

may not be bringing you in as great returns as you think they should.

YOUR BUSINESS HOUSE

may not now be as successful as it has been in the past.

If the reader of this is interested in finding another and probably BETTER location, the Industrial Department of the



offers its large amount of up-to-date information concerning the best locations and its services to aid in satisfactorily locating you at some point along our lines, reaching 11 Western, Southwestern and Southern States.

Write TODAY for free 85-page industrial book, and state your proposition.

FRANK ANDERSON
Industrial Commissioner, Frisco Lines
ST. LOUIS, MO.

—FOR—

Particulars Concerning Location

FOR MANUFACTURERS ON THE

Illinois Central Railroad

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No. 135 Park Row
Industrial and Immigration
Commissioner

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"Something Doing"

on The "OLD RELIABLE"

In the way of
FAST SCHEDULES and
"Up to Now"
Equipment



EFFECTIVE JULY 23rd DOUBLE DAILY TRAINS TO EL PASO

With elegant new electric fanned dining cars on each train. Sleepers of latest pattern. Electric lights and electric fans. Time to Los Angeles and other California points shortened 12 hours.

Three daily trains each way between New Orleans and Shreveport, and four daily trains between Shreveport, Dallas and Fort Worth. Two fast trains each way between Texas and St. Louis, with up-to-date equipment. Dining cars on each train. Lay-over sleepers on night trains between Fort Worth, Dallas and Shreveport. You can leave New Orleans at 1 o'clock in the afternoon and arrive Dallas and Fort Worth next morning, and vice versa, and enjoy the luxury of the very best dining car and Pullman service. For further particulars see nearest ticket agent.

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Allen, Herbert F. L., Washington, D. C.
Hammond-Byrd Co., The, Birmingham, Ala.
Southern Steel Products Co., Inc., Richmond, Va.

Agricultural Implements.

Appomattox Iron Works, Petersburg, Va.
Myers & Bro., F. E., Ashland, O.

Air Compressors. (Stationary and Portable.)

Allen, Herbert F. L., Washington, D. C.
American Air Compressor Wks., New York, N. Y.
American Compressor & Pump Co., Baltimore, Md.
Blaisdell Machinery Co., Bradford, Pa.
Chicago Pneumatic Tool Co., Chicago, Ill.
De La Vergne Machine Co., New York, N. Y.
General Electric Co., Schenectady, N. Y.
Ingersoll-Rand Co., New York, N. Y.
Macklerman-Terry Drill Co., New York, N. Y.
Union Steam Pump Co., Battle Creek, Mich.

Air Motors.

Duke Engine Co., Grand Haven, Mich.
Ingersoll-Rand Co., New York, N. Y.

Aluminum Products. (Bars, Sheets, Tubes, etc.)

Aluminum Company of America, Pittsburgh, Pa.

Alumund Wheels.

Norton Company, Worcester, Mass.

Anti-Friction Metals.

Balloy-Lebby Co., Charleston, S. C.
Dodge Manufacturing Co., Mishawaka, Ind.
Phosphor-Bronze Smelting Co., Phila., Pa.
Virginia Railway Supply Co., Norfolk, Va.

Architects.

Coffman & Coffman, Greenwood, S. C.
Koeth, L. A. H., Wilmington, N. C.
Lockwood, Greene & Co., Boston, Mass.
McLaughlin & Johnson, Lynchburg, Va.
Milburn, Helster & Co., Washington, D. C.
Nolan, Edward A., Tampa, Fla.
Northrup, Willard C., Winston-Salem, N. C.
Pettit & Cave, Buynville, Va.
Shand & Lafaye, Columbia, S. C.
Sirrline, J. E., Greenville, S. C.
Sohle, Edward, Charlotte, N. C.

Architects' Supplies.

Keuffel & Esser, Hoboken, N. J.
Starratt Co., L. S., Atlol, Mass.

Architectural Iron and Sheet Metal Work.

Bolles Iron & Wire Works, J. E., Detroit, Mich.
Chesapeake Iron Works, Baltimore, Md.
Des Moines Bridge & Iron Co., Des Moines, Ia.
Schreibler & Sons Co., The, L., Cincinnati, O.
Snead Architectural Iron Works, Louisville, Ky.

Art Glass.

Blinswanger & Co., Memphis, Tenn.

Art Glass and Prisms. (Set in Zinc and Copper.)

Spliss Art Glass Co., G. A., St. Louis, Mo.

Asbestos.

Carolina Portland Cement Co., Charleston, S. C.
Johns-Manville Co., H. W., New York, N. Y.
Southern Pipe Covering Co., Inc., Richmond, Va.

Asphalt.

Armstrong Mfg. Co., Richmond, Va.
Barber Asphalt Paving Co., Philadelphia, Pa.
Gulf Refining Co., Pittsburgh, Pa.
Texas Co., The, New York, N. Y.

Asphalt Roofing and Siding. (Bird Sand and Chipped Slate Surfaced.)

Bermingham & Seaman Co., Chicago, Ill.

Automatic Buckets.

Browning Engineering Co., Cleveland, O.

Automobiles.

Interstate Automobile Co., Muncie, Ind.
Jeffery Co., Thos. H., Kenosha, Wis.

Axles. [See Car Wheels, Axles and Trucks.]**Babbitt Metal. [See Anti-Friction Metal.]**

Badges. (Flat and Breast, Electric and Steam Road, Police and Fire Dept.)
American Railway Supply Co., New York, N. Y.

Bakers' Machinery.

Lynn Superior Co., The, Cincinnati, O.

Bankers and Brokers.

Baltimore Trust Co., Baltimore, Md.
Delaware Trust Co., Wilmington, Del.
Florida Trust Co., Jacksonville, Fla.
Glenn, W. S., Spartanburg, S. C.
Guaranty State Bank & Trust Co., Dallas, Tex.
Halsey & Co., N. W., New York, N. Y.
Lisman & Co., F. J., New York, N. Y.
Mercantile Trust & Deposit Co., Baltimore, Md.
Naveen & Co., John, Chicago, Ill.
Savannah Bank & Trust Co., Savannah, Ga.
Short & Son, John C., New York, N. Y.
Southern States Development Co., New York, N. Y.
Wimer & Co., Kenneth, San Antonio, Tex.

Banks.

First National Bank, Baltimore, Md.
First Nat'l Bank of Key West, Key West, Fla.
First National Bank, Richmond, Va.
Guaranty State Bank & Trust Co., Dallas, Tex.
Merchants National Bank, Baltimore, Md.
National Exchange Bank, Baltimore, Md.
Savannah Bank & Trust Co., Savannah, Ga.

Bank and Office Railings and Grilles. (Iron.)

Bolles Iron & Wire Works, J. E., Detroit, Mich.
Buckeye Wire & Iron Works Co., Columbus, O.
Chattanooga Iron & Wire Wks., Chattanooga, Tenn.
Chesapeake Iron Works, Baltimore, Md.
Dow Wire Works, Louisville, Ky.

Dufur & Co., Baltimore, Md.
Dufur, Baggett & Co., Baltimore, Md.
Ester Wire Works Co., New York, N. Y.

Jones & Co., L. E., Baltimore, Md.
Meyers Mfg. Co., F. J., Hamilton, O.
Ohio Elevator & Machine Co., The, Columbus, O.

Bank Fixtures.

Quincy Show Case Works, Quincy, Ill.

Ruse & Thompson, Baltimore, Md.

Bar Iron. (Refined and Galvanized.)

Carnegie Steel Co., Pittsburgh, Pa.
Nictown Plate Washer Co., Philadelphia, Pa.

Bars, Wire, Wire Fabric, etc. (Steel for Concrete-Steel Construction.)

American Steel & Wire Co., Chicago, Ill.
American System of Reinforcing, Chicago, Ill.
Cincinnati Iron & Steel Co., Cincinnati, O.
Clinton Wire Cloth Co., Clinton, Mass.
Concrete-Steel Co., The, New York, N. Y.
Concrete Steel Engineering Co., New York, N. Y.
Franklin Steel Co., Franklin, Pa.
Hoffman & Co., R. C., Baltimore, Md.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Southern Steel Products Co., Inc., Richmond, Va.
Wight & Co., W. N., New York, N. Y.

Bearings. (Ball.)

Hyatt Roller Bearing Co., Newark, N. J.
Standard Roller Bearing Co., Philadelphia, Pa.

Bearings. (Brass Journal.)

Gilbert & Sons Brass Fdry. Co., A., St. Louis, Mo.

Bearings. (Oilless.)

North Amer. Metaline Co., Long Island City, N. Y.

Bearings. (Roller.)

Hyatt Roller Bearing Co., Newark, N. J.
Standard Roller Bearing Co., Philadelphia, Pa.

Bells. (Call.)

Holtzer & Cabot Electric Co., Brookline, Mass.

Bells and Gongs.

National Tube Co., Pittsburgh, Pa.
Western Electric Co., New York, N. Y.

Belting. (Leather, Canvas, Rubber.)

American Supply Co., Providence, R. I.
Bailey-Lebby Co., Charleston, S. C.
Baltimore Belting Co., Baltimore, Md.
Cameron & Burkley Co., Charleston, S. C.
Chesapeake Belting Co., Baltimore, Md.
Diamond Rubber Co., Akron, O.
Dick, Ltd., R. & J., Passaic, N. J.
Druid Oak Belting Co., Inc., The, Baltimore, Md.
Gandy Belting Co., Baltimore, Md.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
Rosendale-Reddaway B. & H. Co., Newark, N. J.
Williams & Sons, L. B., Dover, N. H.

Belting. (Chain.)

Bartlett & Snow Co., C. O., Cleveland, O.
Caldwell & Sons Co., H. W., Chicago, Ill.
Jeffrey Mfg. Co., Columbus, O.
Link-Belt Co., Nictown (Philadelphia), Pa.
Morse Chain Co., Itasca, N. Y.

Belt Conveyors.

Jeffrey Mfg. Co., Columbus, O.
Robins Conveying Belt Co., New York, N. Y.

Belt Dressing.

Diamond Rubber Co., Akron, O.
Gandy Belting Co., Baltimore, Md.

Belt Fasteners.

Crescent Belt Fastener Co., New York, N. Y.

Bicarbonate Soda. (Sap Stain Lumber Dip.)

Church & Dwight Co., New York, N. Y.

Blackboards. (Slate.)

East Bangor Con. Slate Co., The, East Bangor, Pa.
Hower, J. K., Stratford, Pa.
Johnson, E. J., New York, N. Y.

Block Tackle. (For Wire or Manila Rope.)

Patterson Co., W. W., Pittsburgh, Pa.

Blowers. (Soot.)

Bayer Steam Soot Blower Co., St. Louis, Mo.

Blowers and Exhaust Fans.

American Blower Co., Detroit, Mich.
Buffalo Forge Co., Buffalo, N. Y.
Clark Co., Geo. P., Windsor Locks, Conn.
De Laval Steam Turbine Co., Trenton, N. J.
Garden City Fan Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Green Fuel Economizer Co., Mattawan, N. Y.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
Savannah Blow Pipe Co., Savannah, Ga.
Skinner Bros., St. Louis, Mo.
Standard Blower & Metal Mfg. Co., Atlanta, Ga.
Sturtevant Co., B. F., Hyde Park, Mass.

Blueprint Apparatus.

Keuffel & Esser, Hoboken, N. J.

Boilers.

Abendroth & Root Mfg. Co., Newburgh, N. Y.
Ames Iron Works, Oswego, N. Y.
Babcock & Wilcox Co., New York, N. Y.
Brownell Co., Dayton, O.
Cameron & Barkley Co., Charleston, S. C.
Casey-Hedges Co., Chattanooga, Tenn.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago House Wrecking Co., Chicago, Ill.
Cole Mfg. Co., R. D., Newnan, Ga.
Cooper Co., C. & G. M., Vernon, O.
Gibbs Machinery Co., Columbia, S. C.
Gardley Boiler Works, Montgomery, Ala.
Heine Safety Boiler Co., St. Louis, Mo.
Keeler Co., E., Williamsport, Pa.
Lookout Boiler & Mfg. Co., Chattanooga, Tenn.
Lombard Iron Works, Augusta, Ga.
Mecklenburg Iron Works, Charlotte, N. C.
Murray Iron Works Co., Burlington, Ia.
Petroleum Iron Works Co., Sharon, Pa.
Price Machinery Co., S. M., Norfolk, Va.
Schiffel & Sons Co., J. S., Macon, Ga.
Smith-Connery Co., Richmond, Va.
Southern Engine & Boiler Works, Jackson, Tenn.
Union Iron Works Co., Selma, Ala.
Valk & Murdoch Iron Works, Charleston, S. C.
Vogt Machine Co., Henry, Louisville, Ky.
Walsh & Wehner Boiler Co., Chattanooga, Tenn.

Boiler Setting.

Harbison-Walker Refractories Co., Pittsburgh, Pa.

Boiler Tubes. [See Tubes, Boiler.]

Bolts, Nuts, Rivets, Studs and Washers.
Lebanon Valley Iron & Steel Co., Lebanon, Pa.
Milton Mfg. Co., Milton, Pa.
Nictown Plate Washer Co., Philadelphia, Pa.
Republic Iron & Steel Co., Pittsburgh, Pa.
Russell, Burdell & Ward Bolt & Nut Co., Port Chester, N. Y.

Bonded Warehouse. (For Manufacturers.)

Candler Warehouse Co., Atlanta, Ga.

Bonds. (Surety, etc.)

Fidelity & Deposit Co., Baltimore, Md.

Boots. (Rubberhose for Miners and Contractors.)

Rubberhose Co., Boston, Mass.

Boring. (Cylinder.)

Strickland Machine Co., Richmond, Va.

Bottling Outfits.

Vilter Mfg. Co., Milwaukee, Wis.

Box Shooks.

Naylor & Co., S. E., Gulfport, Miss.

Brass Goods.

Bailey-Lebby Co., Charleston, S. C.
Buckeye Iron & Brass Works, Dayton, O.
Powell Co., Wm., Cincinnati, O.

Brazings. (Cast Iron.)

Richmond Machine Works, Inc., Richmond, Va.
Strickland Machine Co., Richmond, Va.

Brewers' Machinery.

Vilter Mfg. Co., Milwaukee, Wis.

Brick. (Building.)

Brookhaven Pressed Brick & Mfg. Co., Brookhaven, Miss.
Carolina Portland Cement Co., Charleston, S. C.
Hood, B. Millin, Atlanta, Ga.
Hydraulic Pressed Brick Co., St. Louis, Mo.
Oconee Brick & Tile Co., Milledgeville, Ga.
Powhatan Clay Mfg. Co., Richmond, Va.
Sibley-Menge Brick & Coal Co., Birmingham, Ala.
Southern Clay Mfg. Co., Chattanooga, Tenn.

Brick. (Blast Furnace, Coke Oven.)

Ashland Fire Brick Co., Ashland, Ky.
Hood, B. Millin, Atlanta, Ga.
Southern Clay Mfg. Co., Chattanooga, Tenn.

Brick. (Enamelled.)

Amer. Enam. Brick & Tile Co., New York, N. Y.

Brick. (Fire Clay.)

Ashland Fire Brick Co., Ashland, Ky.
Brookhaven Pressed Brick & Mfg. Co., Brookhaven, Miss.

Harbison-Walker Refractories Co., Pittsburgh, Pa.
Kilian Fire Brick Works, Killian, S. C.
Louisville Fire Brick Works, Highland Park, Ky.
Pomona Terra-Cotta Co., Pomona, N. C.
Powhatan Clay Mfg. Co., Richmond, Va.
Southern Clay Mfg. Co., Chattanooga, Tenn.

Stevens' Sons Co., H. L., Macon, Ga.
Taylor Sons Co., Chas., Cincinnati, O.
Union Mining Co., Mt. Savage, Md.

Brick. (Magnesia.)

Harbison-Walker Refractories Co., Pittsburgh, Pa.

Brick. (Paving.)

Carlyle Paving Brick Co., Portsmouth, O.
Copeland-Ingalls Shale Brick Co., Birmingham, Ala.
Southern Clay Mfg. Co., Chattanooga, Tenn.

Brick. (Silica.)

Harbison-Walker Refractories Co., Pittsburgh, Pa.

Brick Machinery. (Sand Lime.) [See Sand-Lime Brick Machinery.]**Brick and Clayworking Machinery and Supplies.**

American Clay Mchry. Co., The, Bucyrus, O.
Carnell, George, Philadelphia, Pa.
Fernald Brick Machinery Co., St. Louis, Mo.
Freese & Co., E. M., Gallon, O.
Gibbs Machinery Co., Columbia, S. C.
Scott-Madden Iron Works, Keokuk, Iowa.
Steele & Sons, J. C., Stateville, N. C.
Taphin-Rice-Clerkin Co., Akron, O.

Bridges. (Concrete.)

Concrete Steel Engineering Co., New York, N. Y.
Raymond Concrete Pile Co., New York, N. Y.
Roanoke Bridge Co., Roanoke, Va.

Bridges. (Rolling Lift.)

Scherzer Rolling Lift Bridge Co., Chicago, Ill.

Bridges.

American Bridge Co. of New York, New York, N. Y.
Baltimore Bridge Co., Baltimore, Md.
Belmont Iron Works, Inc., Philadelphia, Pa.
Chicago Bridge & Iron Wks., Chicago, Ill.
Des Moines Bridge & Iron Co., Des Moines, Ia.
Farris Bridge Co., Pittsburgh, Pa.
Missouri Val. B'd' & Iron Co., Leavenworth, Kan.
Morris, Wheeler & Co., Philadelphia, Pa.
Owego Bridge Co., Owego, N. Y.
Ritter-Conley Mfg. Co., Pittsburgh, Pa.
Roanoke Bridge Co., Roanoke, Va.
Scherzer Rolling Lift Bridge Co., Chicago, Ill.
Vincennes Bridge Co., Vincennes, Ind.
Virginia Bridge & Iron Co., Roanoke, Va.
York Bridge Co., York, Pa.

Bridge and Structural Iron Paints.

Carolina Portland Cement Co., Charleston, S. C.
Chattanooga Paint Co., Chattanooga, Tenn.
Dixon Crucible Co., Joseph, Jersey City, N. J.
Maryland Steel Co., Sparrows Point, Md.
Standard Paint Co., New York, N. Y.

Brimstone.

Union Sulphur Co., New York, N. Y.

Buckets. (Excavators.)

Browning Mfg. Co., Mansfield, O.
Hayward Co., New York, N. Y.
Moulton Mfg. Co., Chicago, Ill.
Owen Bucket Co., Cleveland, O.
Williams Co., The, G. H., Cleveland, O.

Buckets. (Ore, etc.)

Brown Holsting Mchry. Co., Cleveland, O.
Browning Mfg. Co., Mansfield, O.
Caldwell & Son Co., H. W., Chicago, Ill.
Dodge Manufacturing Co., Mishawaka, Ind.
Hayward Co., New York, N. Y.
Link-Belt Co., Nictown (Philadelphia), Pa.
Owen Bucket Co., Cleveland, O.
Williams Co., The, G. H., Cleveland, O.

Buhr Stones.

Starr Co., B. F., Baltimore, Md.

Builders and Contractors.

Falls City Construction Co., Louisville, Ky.
Farris Bridge Co., Pittsburgh, Pa.
Raymond Concrete Pile Co., New York, N. Y.
Selden-Breck Construction Co., St. Louis, Mo.
Upton-Smoother Construction Co., Washington, D. C.
White & Co., J. G., New York, N. Y.

Buildings. (Financed.)

Falls City Construction Co., Louisville, Ky.

Building Supplies.

Armstrong Mfg. Co., Richmond, Va.
Birch, Chas. & R. O., Atlanta, Ga.
Carolina Portland Cement Co., Charleston, S. C.
Chicago House Wrecking Co., Chicago, Ill.
Southern Limestone & Cement Co., Charleston, S. C.
Southern Building Material Co., Norfolk, Va.
Southern Steel Products Co., Inc., Richmond, Va.

Burlap-Inserted Roofing and Siding. (Flexible Cement.)

Bermingham & Seaman Co., Chicago, Ill.

Burners. (Oil.) [See Fuel Oil Equipments.]**Bushings. (Oilless, for Loose Pulleys.)**

North Amer. Metaline Co., Long Island City, N. Y.

Cables.

American Steel & Wire Co., Chicago, Ill.
Broderick & Bascom Rope Co., St. Louis, Mo.
Roebeling's Sons Co., John A., Trenton, N. J.
Williamsport Wire Rope Co., Williamsport, Pa.

Cableways. (Overhead Suspension.)

Broderick & Bascom Rope Co., St. Louis, Mo.
Flory Mfg. Co., S. Bangor, Pa.
Lidgerwood Mfg. Co., New York, N. Y.
Mead-Morrison Mfg. Co., Cambridgeport, Mass.
Roebeling's Sons Co., John A., Trenton, N. J.

Can and Box Making Machinery. (Tin.)

Bliss Co., E. W., Brooklyn, N. Y.

Cans.

New Orleans Bfg. & Metal Wks., New Orleans, La.
Southern Can Co., Baltimore, Md.
United States Can Co., Cincinnati, O.

Canning Machinery and Supplies.

Canners & Packers' Supply Co., Baltimore, Md.
Robins & Co., A. K., Baltimore, Md.
Sinclair-Scott Co., Baltimore, Md.
Sprague Canning Machinery Co., Chicago, Ill.

Carborundum Paper and Cloth.

Carborundum Co., Niagara Falls, N. Y.

Card Clothing.

American Supply Co., Providence, R. I.

Cars. (Dump, Industrial Logging and Mine)

Austin Mfg. Co., Chicago, Ill.
Baldwin Equipment & Supply Co., Chicago, Ill.
Chase Fdry. & Mfg. Co., Columbus, O.
Electric Wheel Co., Quincy, Ill.
Georgia Car & Locomotive Co., Atlanta, Ga.
Hunt Co., C. W., West New Brighton, N. Y.
Kilbourne & Jacobs Mfg. Co., Columbus, O.
Males Co., The, Cincinnati, O.
Oliver Mfg. Co., Wm. J., Knoxville, Tenn.
Raleigh Iron Works Co., Raleigh, N. C.
Union Iron Works, Selma, Ala.

Cars. (Passenger and Freight.) [See Railroad Equipment and Supplies.]**Car Couplers and Knuckles.**

Safety Car H't'g & L'ght'g Co., New York, N. Y.

Car Lighting and Heating.

Safety Car H't'g & L'ght'g Co., New York, N. Y.

Car Wheels, Axles and Trucks.

Carnegie Steel Co., Pittsburgh, Pa.
Oliver Mfg. Co., Wm. J., Knoxville, Tenn.
Union Iron Works, Selma, Ala.

Casters.

Clark Co., Geo. P., Windsor Locks, Conn.

Castings. (Aluminum.)

Aluminum Company of America, Pittsburgh, Pa.
Gilbert & Sons Brass Fdry

Coal Cutters.

Ingersoll-Rand Co., New York, N. Y.
 Jeffrey Mfg. Co., Columbus, O.
 McKiernan-Terry Drill Co., New York, N. Y.

Coal Handling Machinery.

Bartlett & Snow Co., C. O., Cleveland, O.
 Brown Hoisting Mch. Co., Cleveland, O.
 Hayward Co., New York, N. Y.
 Hunt Co., C. W., West New Brighton, N. Y.
 Jeffrey Mfg. Co., Columbus, O.
 Link-Belt Co., Nicetown (Philadelphia), Pa.
 Link-Belt Mfg. Co., Cambridgeport, Mass.
 Mead-Morrison Mfg. Co., New York, N. Y.
 Robbins Conveying Belt Co., New York, N. Y.
 Williams Co., The G. H., Cleveland, O.

Coal Tar and By-Products.

Barrett Mfg. Co., Philadelphia, Pa.
 Carolina Portland Cement Co., Charleston, S. C.

Coke.

Alabama Coal & Iron Co., Birmingham, Ala.
 Flat Top Fuel Co., Bluefield, W. Va.
 Hickman, Williams & Co., Chicago, Ill.
 Rogers, Brown & Co., Cincinnati, O.
 Tennessee Coal, Iron & R. R. Co., B'gh'm, Ala.
 Yolande Coal & Coke Co., Birmingham, Ala.

Collapsible Steel Forms. (For Concrete Work.)

Concrete Form & Engine Co., Detroit, Mich.

Concrete Construction. (Steel Reinforcement.)

American Steel & Wire Co., Chicago, Ill.
 American System of Reinforcing, Chicago, Ill.
 Clinton Wire Cloth Co., Clinton, Mass.
 Concrete-Steel Co., The, New York, N. Y.
 Concrete-Steel Engineering Co., New York, N. Y.
 Foster-Creighton-Gould Co., Nashville, Tenn.
 Jeffrey Mfg. Co., Columbus, O.
 Raymond Concrete Pipe Co., New York, N. Y.
 Rehebert Mfg. Co., Milwaukee, Wis.
 Wight & Co., W. N., New York, N. Y.

Concrete Curb Protection. (Steel.)

Steel Protected Concrete Co., Philadelphia, Pa.

Concrete Dams.

Ambursen Hydraulic Const. Co., Boston, Mass.

Concrete Floor Dressing. (Waterproof.)

Gildden Varnish Co., Cleveland, O.

Concrete Forms. (Metal.)

Reichert Mfg. Co., Milwaukee, Wis.

Concrete Forms. (Steel Collapsible.)

Concrete Form & Engine Co., Detroit, Mich.

Concrete Mixers.

Carolina Portland Cement Co., Charleston, S. C.
 Parka Machine Co., Lansing, Mich.
 Jeffrey Mfg. Co., Columbus, O.
 Smith Co., T. L., Chicago, Ill.
 Standard Scale & Supply Co., Pittsburg, Pa.

Concrete Reinforcing Bars.

Carnegie Steel Co., Pittsburg, Pa.
 Concrete-Steel Co., The, New York, N. Y.
 Concrete-Steel Engineering Co., New York, N. Y.
 Franklin Steel Co., Franklin, Pa.

Condensers.

Alberger Condenser Co., New York, N. Y.
 Dean Bros. Steam Pump Wks., Indianapolis, Ind.
 Westinghouse Machine Co., Pittsburg, Pa.
 Wheeler Condenser & Eng. Co., New York, N. Y.
 York Mfg. Co., York, Pa.

Conductor Pipe.

Edwards Mfg. Co., Cincinnati, O.
 Hussey & Co., C. G., Pittsburg, Pa.
 Milwaukee Corrugating Co., Milwaukee, Wis.

Contractors' Machinery and Supplies. (See Hoisting Machinery.)

American Locomotive Co., New York, N. Y.
 Austin Mfg. Co., Chicago, Ill.
 Case Threshing Mch. Co., J. I., Racine, Wis.
 Clyde Iron Works, Duluth, Minn.
 Contractors' Plant Mfg. Co., Ltd., Buffalo, N. Y.
 Exeter Machine Works, Pittsburg, Pa.
 Flory Mfg. Co., S., Bangor, Pa.
 Hyde Bros. & Co., New York, N. Y.
 Ingersoll-Rand Co., New York, N. Y.
 Kilbourne & Jacobs Mfg. Co., Columbus, O.
 Linton, W. J., New York, N. Y.
 Males Co., The, Cincinnati, O.
 Marine Metal & Supply Co., New York, N. Y.
 Maryland Equipmt. & Supply Co., Baltimore, Md.
 Mead-Morrison Mfg. Co., Cambridgeport, Mass.
 Monaghan Mch. Co., Chicago, Ill.
 Oliver Mfg. Co., Wm. J., Knoxville, Tenn.
 Owen Bucket Co., Cleveland, O.
 Robins Conveying Belt Co., New York, N. Y.
 Williamson Bros. Co., Philadelphia, Pa.

Conveying Machinery.

Bartlett & Snow Co., C. O., Cleveland, O.
 Brown Hoisting Mch. Co., Cleveland, O.
 Caldwell & Son Co., H. W., Chicago, Ill.
 Dodge Manufacturing Co., Mishawaka, Ind.
 Flory Mfg. Co., S., Bangor, Pa.
 Hayward Co., New York, N. Y.
 Hunt Co., C. W., West New Brighton, N. Y.
 Jeffrey Mfg. Co., Columbus, O.
 Lidgerwood Mfg. Co., New York, N. Y.
 Link-Belt Co., Nicetown (Philadelphia), Pa.
 Mead-Morrison Mfg. Co., Cambridgeport, Mass.
 McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
 Robins Conveying Belt Co., New York, N. Y.
 Symons Bros., Milwaukee, Wis.

Cooling Towers.

Alberger Condenser Co., New York, N. Y.
 Wheeler Condenser & Eng. Co., New York, N. Y.

Cordage.

American Mfg. Co., New York, N. Y.
 Froelich & Bascom Rope Co., St. Louis, Mo.
 Columbian Rope Co., Auburn, N. Y.
 Plymouth Cordage Co., North Plymouth, Mass.
 Turner Co., J. Spencer, New York, N. Y.
 Whitlock Cordage Co., New York, N. Y.

Cordage Machinery.

Hasell-Dawes Machine Co., Boston, Mass.

Core Sand.

Clinch Mountain Flint & Spar Co., Bristol, Tenn.

Corn-Mill Machinery.

Nordyke & Marrison Co., Indianapolis, Ind.
 Raymond Bros. Impact Pulv. Co., Chicago, Ill.
 Starr Co., R. F., Baltimore, Md.
 Wolf Co., Chambersburg, Pa.

Cotton Duck.

Turner Co., J. Spencer, New York, N. Y.

Cotton Oil and Products.

American Cotton Oil Co., New York, N. Y.

Cotton Yarns. (Commission Merchants.)

Paulson, Linkroum & Co., New York, N. Y.

Cotton-Gin Machinery.

Carver Cotton Gin Co., East Bridgewater, Mass.
 Continental Gin Co., Birmingham, Ala.
 Gibbs Machinery Co., Columbia, S. C.
 Van Winkle Gin & Machine Co., Atlanta, Ga.

Cotton-Mill Machinery.

American Mach. & Mfg. Co., Charlotte, N. C.
 American Supply Co., Providence, R. I.
 Draper Co., Hopkdale, Mass.
 Kilton Machine Shop, Lowell, Mass.
 Lowell Machine Shop, Lowell, Mass.
 Mason Machine Works, Taunton, Mass.
 Saco-Pettie Co., Newton Upper Falls, Mass.
 Whitin Machine Works, Whitinsville, Mass.
 Whitinsville Spinn'g Ring Co., Whitinsville, Mass.

Cotton-Mill Supplies.

American Supply Co., Providence, R. I.
 Whitinsville Spinn'g Ring Co., Whitinsville, Mass.

Cottonseed-Oil Machinery.

Buckeye Iron & Brass Works, Dayton, O.
 Burruss Engineering Co., Atlanta, Ga.
 Callahan Co., W. P., The, Dayton, O.
 Cardwell Machine Co., Richmond, Va.
 Carver Cotton Gin Co., East Bridgewater, Mass.
 Continental Gin Co., Birmingham, Ala.
 French Oil Mill Mch. Co., Piqua, O.
 Raymond Bros. Impact Pulv. Co., Chicago, Ill.
 Van Winkle Gin & Machine Co., Atlanta, Ga.

Couplings.

American Spiral Pipe Works, Chicago, Ill.
 Caldwell Co., Inc., W. B., Louisville, Ky.
 Gardner Crusher Co., New York, N. Y.
 Golden Foundry & Machine Co., Columbus, Ga.
 Sinclair-Scott Co., Baltimore, Md.
 Wood's Sons, T. R., Chambersburg, Pa.

Couplings. (Hose, Air, Gas, Steam and Water.)

National Tube Co., Pittsburg, Pa.

Covering. (Pipe, Boiler, etc.)

Carolina Portland Cement Co., Charleston, S. C.
 Johns-Manville Co., H. W., New York, N. Y.
 Southern Pipe Covering Co., Inc., Richmond, Va.

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Browning Engineering Co., Cleveland, O.
 Exeter Machine Works, Pittsburg, Pa.

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 Northern Engineering Works, Detroit, Mich.
 Spidel, J. G., Reading, Pa.

Cravens.

Lowell Crayon Co., Lowell, Mass.

Creosote.

Carolina Portland Cement Co., Charleston, S. C.

Creosote Oil.

Atlantic Turpentine Co., Savannah, Ga.

Creosoted Wood Block. (Contractors for Laying.)

Creosoted Wood Block Paving Co., Gulfport, Miss.

Creosoting Works.

Gulfport Creosoting Co., Gulfport, Miss.
 Internat'l Creosot'g & Cons. Co., Galveston, Tex.
 National Lumber & Creos. Co., Texarkana, Ark.
 Southern Creosoting Co., Ltd., Silell, La.
 Southern Wood Preserving Co., Atlanta, Ga.

Crossarms and Pins.

Internat'l Creosot'g & Cons. Co., Galveston, Tex.
 Southern Creosoting Co., Ltd., Silell, La.
 Western Electric Co., New York, N. Y.

Crossings. (See Railroad Frogs and Switches.)**Crosstie Machine.**

Standard Cross Tie Mch. Co., New Orleans, La.

Crossties.

Internat'l Creosot'g & Cons. Co., Galveston, Tex.
 National Lumber & Creos. Co., Texarkana, Ark.
 Naylor & Co., S. E., Gulfport, Miss.
 Southern Creosoting Co., Ltd., Silell, La.

Crossties. (Steel.)

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Gardner Crusher Co., New York, N. Y.
 Jeffrey Mfg. Co., Columbus, O.
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Crushers. (Rock.)

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 Gardner Crusher Co., New York, N. Y.
 Power & Mining Machinery Co., Cudahy, Wis.
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 Symons Bros., Milwaukee, Wis.
 Universal Road Mch. Co., Kingston, N. Y.

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 Austin Mfg. Co., Chicago, Ill.
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 Dixie Culvert & Metal Co., Atlanta, Ga.
 Kentucky Culvert Mfg. Co., Buemel, Ky.
 New Orleans Bfg. & Metal Wks., New Orleans, La.
 North Carolina Metal Culv. Co., Greensboro, N. C.
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 American Process Co., New York, N. Y.
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Blaisdell Machinery Co., Bradford, Pa.

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 Piedmont Electric Co., Asheville, N. C.
 Richmond Electric Co., Richmond, Va.
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 Jones & Co., E. E., Baltimore, Md.
 Meyers Mfg. Co., The Fred J., Hamilton, O.
 Ohio Elevator & Machine Co., The, Columbus, O.
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Walker & Elliott, Wilmington, Del.
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[See Concrete Construction.]

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Sidney Elevator Mfg. Co., Sidney, O.

Handle Machinery. [See Woodworking Machy.]

Hangers. [See Pulleys, Shafting and Hangers.]

Hauling Engines. (Steam Traction.)

Case Threshing Mach. Co., J. I., Racine, Wis.

Hay Tools.

Myers & Bro. F. E., Ashland, O.

Heater. (Portable, for Bituminous Pavements.)

Ruggles-Coles Engineering Co., New York, N. Y.

Heating Apparatus, Engineers and Contractors.

Buffalo Forge Co., Buffalo, N. Y.
Monitor Steam Generator Mfg. Co., Balto, Md.
Peck-Hammond Co., The, Cincinnati, O.

Hoisting Machinery.

American Hoist & Derrick Co., St. Paul, Minn.
Brown Hoisting Mch. Co., Cleveland, O.
Byers Machine Co., John F., Ravenna, O.
Clyde Iron Works, Duluth, Minn.
Contractors' Plant Mfg. Co., Ltd., Buffalo, N. Y.
Duke Engine Co., Grand Haven, Mich.
Exeter Machine Works, Pittston, Pa.
Flory Mfg. Co., E., Bangor, Pa.
Foss Gas Engine Co., The, Springfield, O.
Hayward Co., New York, N. Y.
Link-Belt Co., Nictown (Philadelphia), Pa.

Lidgerwood Mfg. Co., New York, N. Y.
Males Co., Cincinnati, O.
Mead-Morrison Mfg. Co., Cambridgeport, Mass.
Monaghan Machine Co., Chicago, Ill.
National Hoisting Engine Co., Harrison, N. J.
Stroudsburg Engine Works, Stroudsburg, Pa.
Williamson Bros. Co., Philadelphia, Pa.

CHAIN.

Spedel, J. G., Reading, Pa.

ELECTRIC.

American Hoist & Derrick Co., St. Paul, Minn.
Lidgerwood Mfg. Co., New York, N. Y.
Monaghan Mch. Co., Chicago, Ill.
Northern Engineering Works, Detroit, Mich.
Patten Mfg. Co., Chattanooga, Tenn.

PNEUMATIC MOTORS.

Chicago Pneumatic Tool Co., Chicago, Ill.
Ingersoll-Rand Co., New York, N. Y.

Hoops, Bands, etc. (Galvanized.)

J. C. H. Galvanizing Co., Philadelphia, Pa.
McCalla, Harold, Philadelphia, Pa.

Hoops. (Barrel.)

American Steel & Wire Co., Chicago, Ill.
Carnegie Steel Co., Pittsburg, Pa.

Hose.

Eureka Fire Hose Mfg. Co., New York, N. Y.
N. J. Car Spring & Rubber Co., Jersey City, N. J.

Hotels.

Hotel Essex, Boston, Mass.

Hot Water Service Heaters.

Alberger Condenser Co., New York, N. Y.

Hydrants.

Bourbon Copper & Brass Wks. Co., Cincinnati, O.
Columbian Iron Works, Chattanooga, Tenn.
Glamorgan Pipe & Foundry Co., Lynchburg, Va.
Goulds Mfg. Co., Seneca Falls, N. Y.
Myers & Bro. F. E., Ashland, O.
Wood & Co., R. D., Philadelphia, Pa.

Hydraulic Giants.

American Spiral Pipe Works, Chicago, Ill.

Hydraulic Rams.

Goulds Mfg. Co., Seneca Falls, N. Y.
Rife Engine Co., New York, N. Y.

Ice-making Machinery and Supplies.

Columbus Iron Works Co., Columbus, Ga.
Creamery Package Mfg. Co., Chicago, Ill.
De La Vergne Machine Co., New York, N. Y.
Frick Co., The, Waynesboro, Pa.
International Filter Co., Chicago, Ill.
Remington Machine Co., Wilmington, Del.
Tait-Nordmeyer Eng. Co., St. Louis, Mo.
Vilter Mfg. Co., Milwaukee, Wis.
Vogt Machine Co., Henry, Louisville, Ky.
Wolf Mfg. Co., The, Fred W., Chicago, Ill.
York Mfg. Co., York, Pa.

Incorporators. (Companies.)

Delaware Trust Co., Wilmington, Del.

Industrial, Agricultural and Commercial Opportunities.

CITIES AND TOWNS.
Atlanta, Ga., Ga. Bureau of Indus'y & Imm'g.
Baltimore, Md., Gas & Electric Co.
Baltimore, Md., Cloud & Clark.
Fayetteville, N. C., Chamber of Commerce.
Huntington, W. Va., Huntington Chamber of Commerce.
Houston, Tex., A. D. Alderson Co.
Morgan City, La., Willard Ditch.
Newport News, Va., Old Dominion Land Co.
Texas City, Tex., Texas City Transportation Co.

RAILROADS.

Atlanta, Birm'gh'm & Atlantic R. R., Atlanta, Ga.
Atlanta & West Point R. R. Co., Montgomery, Ala.
Baltimore & Ohio Railroad, Baltimore, Md.
Carolina, Clinchfield & O. Ry., Johnson City, Tenn.
Central of Georgia Ry. Co., Savannah, Ga.
Frisco Lines, St. Louis, Mo.
Illinois Central Railroad Co., Chicago, Ill.
Norfolk & Western Railway, Roanoke, Va.
Seaboard Air Line, Portsmouth, Va.
Southern Railway Co., Washington, D. C.
St. Louis Southwestern Ry. Co., St. Louis, Mo.

Lands.
Beller & Wilson, Roanoke, Va.
Beller & Clark, Baltimore, Md.
Crosby, J. Edw., New Orleans, La.
Fondle & Co., Albert, Brunswick, Ga.
Hatchison, H. B., Washington, D. C.
Kimbrough & Co., J. T., Atlanta, Ga.
Morris & Co., Abbott, Norfolk, Va.
Nashua & Co., S. L., Norfolk, Va.

Lath. (Expanded Metal.)
Carolina Portland Cement Co., Charleston, S. C.
Milwaukee Corrugating Co., Milwaukee, Wis.

Lathes. (Engine.)
Greaves, Kinsman & Co., Cincinnati, O.
Manning, Maxwell & Moore, Inc., New York, N. Y.
Miami Valley Machine Tool Co., Dayton, O.

Lawn Furniture.
Boles Iron & Wire Works, J. E., Detroit, Mich.
Dufur & Co., Baltimore, Md.
Dufur, Baggott & Co., Baltimore, Md.

Leadite.
Leadite Co., The, Philadelphia, Pa.

Line.
Carolina Portland Cement Co., Charleston, S. C.
Security Cement & Lime Co., Baltimore, Md.
Southeastern Lime & Cement Co., Charleston, S. C.

Line. (Hydrated.)
Security Cement & Lime Co., Baltimore, Md.

Line Kilns and Equipment.
Improved Equipment Co., New York, N. Y.

Limestone Products.
Security Cement & Lime Co., Baltimore, Md.

Liquor Filters.
International Filter Co., Chicago, Ill.

Lithographers, Engravers.
Young & Selden Co., Baltimore, Md.

Lockers. (Metal.)
Kelley Metal Ceiling Mfg. Co., S., Pittsburg, Pa.

Locomotives.

INDUSTRIAL.
American Locomotive Co., New York, N. Y.
Baldwin Locomotive Works, The, Philadelphia, Pa.
Bowers, Joseph E., Norfolk, Va.
Bryers Machine Co., John F., Ravenna, O.
Climax Mfg. Co., Corry, Pa.
Davenport Locomotive Works, Davenport, Ia.
Jeffrey Mfg. Co., Columbus, O.
Lima Locomotive & Machine Co., Lima, O.
Males Co., Cincinnati, O.
Porter Co., H. K., Pittsburg, Pa.
Vulcan Iron Works, Wilkes-Barre, Pa.

RAILWAY.
American Locomotive Co., New York, N. Y.
Baldwin Locomotive Works, The, Philadelphia, Pa.
Lima Locomotive & Machine Co., Lima, O.
Males Co., Cincinnati, O.
Southern Supply Co., Norfolk, Va.

Looms and Weaving Machinery.
Draper & Co., Hopedale, Mass.
Mason Machine Works, Taunton, Mass.

Lumber.
Industrial Lumber Co., Elizabeth, La.
Mason & Felton Lumber Co., Macon, Ga.

Lumber. (Heavy Construction, Pitch Pine, etc.)
Mason & Felton Lumber Co., Macon, Ga.
National Lumber & Creosote Co., Texarkana, Ark.
Saylor & Co., S. E., Gulfport, Miss.

Lumber. (Yellow Pine.)
Industrial Lumber Co., Elizabeth, La.

Lumber Buggies.
Sole Steam Feed Works, Meridian, Miss.

Lumber Stackers.
Sole Steam Feed Works, Meridian, Miss.

Machinery. (Special.)
Black & Decker Mfg. Co., Baltimore, Md.
Bliss Co., E. W., Brooklyn, N. Y.
Great Southern Automobile Co., Birmingham, Ala.
Lille, Lewis T., Alpena, Mich.
Lester & Co., Charles, Brooklyn, N. Y.
Meyers, Chas. S., Columbia, Pa.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
Ryersford Fdry. & Mch. Wks., Ryersford, Pa.
Stratton & Bragg Co., Petersburg, Va.
Universal Telegraphic Co., Baltimore, Md.

Machinery and Supplies. (New and Second-Hand Bargains.)

Balto. Iron, Steel & Metal Co., Baltimore, Md.
Baltimore Metal Mchry. & Supply Co., Baltimore, Md.
Boston Iron & Metal Co., Baltimore, Md.
Driggs Machinery Co., Pittsburg, Pa.
Campbell, Thos. J., Philadelphia, Pa.
Chicago House Wrecking Co., Chicago, Ill.
Chicago Hoisting & Machinery Co., Cleveland, O.
Borner Railway Equipment Co., Chicago, Ill.
Frank & Son, Ernest T., Baltimore, Md.
Hilmer's Sons Co., Henry A., Philadelphia, Pa.
Holsting Mchry. Co., New York, N. Y.
Houston, R. C., Memphis, Tenn.
Huntington Mchry. & Sup. Co., Wilkes-Barre, Pa.
Hyde Bros. & Co., New York, N. Y.
Lehman, Charles T., Birmingham, Ala.
Levene & Co., E., Philadelphia, Pa.
Linton, W. J., New York, N. Y.
Lodge & Shipley Machine Tool Co., Cincinnati, O.
Lodge Metal & Supply Co., New York, N. Y.
Morton, Richard, Baltimore, Md.
Nuttall, J., Philadelphia, Pa.
Papworth, H. M., New York, N. Y.
Planmiller Engineering Co., Chicago, Ill.
Pittsburg Tool & Equip. Co., Pittsburg, Pa.
Pittsburg Tool & Supply Co., New York, N. Y.
Randle Machinery Co., Cincinnati, O.
Read Co., Howard W., Philadelphia, Pa.
Samuel, Frank, Philadelphia, Pa.
Seibert's Sons, Inc., L. F., Philadelphia, Pa.
Southern Supply Co., Norfolk, Va.
Stewart Co., Paul, Cincinnati, O.
Tampa Machinery Exchange, Tampa, Fla.
Texas Supply Co., Beaumont, Tex.
Thompson, Jr., Co., Jos. H., New York, N. Y.
Wickes, Frank, Philadelphia, Pa.
Wickes Bros., New York, N. Y.
Yensley, Thomas, Philadelphia, Pa.

Machine Tools.
Greaves, Kinsman & Co., Cincinnati, O.
Manning, Maxwell & Moore, Inc., New York, N. Y.
Miami Valley Machine Tool Co., Dayton, O.

Machinists. (Engineers.)
American Mch. & Mfg. Co., Charlotte, N. C.
Roanoke Iron Works, Inc., Roanoke, Va.
Stratton & Bragg Co., Petersburg, Va.

Magnesia Materials.
Johns-Manville Co., H. W., New York, N. Y.

Magnetics. (Dead Burned.)
Harbison-Walker Refractories Co., Pittsburg, Pa.

Magnets. (Electric Lift.)
Browning Engineering Co., Cleveland, O.

Magnet Electro. (For Cottonseed, Linters and Hullers.)
Dixie Electro Magnet Co., Memphis, Tenn.

Magnetic Separators.
Faxson Co., J. W., Philadelphia, Pa.

Mail Chutes.
Cutler Mail Chute Co., Rochester, N. Y.

Mantels. (Wooden.)
Northcross Mantel Co., W. J., Memphis, Tenn.

Marble Work. (Interior.)
Dagostin & Angelini Bros., Montgomery, Ala.
Southern Mosaic Tile Co., Birmingham, Ala.

Mechanical Draft.
American Blower Co., Detroit, Mich.
Buffalo Steam Pump Co., Buffalo, N. Y.
Garden City Fan Co., Chicago, Ill.
Sturtevant Co., B. F., Hyde Park, Mass.

Metal Ceilings. [See Ceilings, Metal.]

Metaline.
North Amer. Metaline Co., Long Island City, N. Y.

Metal Culverts. [See Culverts.] (Corrugated Metal.)

Metal Polish.
Hoffman, Geo. W., Indianapolis, Ind.

Metal Shingles.
Cincinnati Sheet Metal & Rfg. Co., Cincinnati, O.
Cortright Metal Roofing Co., Philadelphia, Pa.
Edwards Manufacturing Co., Cincinnati, O.
Hyndman Roofing Co., Cincinnati, O.

Metal Window Frames and Sashes.
Edwards Mfg. Co., The, Cincinnati, O.
Kelley Metal Cell. & Mfg. Co., S., Pittsburg, Pa.
Volkmann & Co., Chicago, Ill.

Metal Work. (Stamped and Embossed Hotel Checks, Key Tags, etc.)
American Railway Supply Co., New York, N. Y.

Metal-Working Machinery.
Bertsch & Co., Cambridge City, Ind.
Bliss Co., E. W., Brooklyn, N. Y.
Gibbs Machinery Co., Columbia, S. C.
Leffer & Co., Chas., Brooklyn, N. Y.
Price Machinery Co., S. M., Norfolk, Va.
Ryersford Fdry. & Mch. Co., Ryersford, Pa.

Meters. (Water, Sewage, etc.)
Builders' Iron Fdy. Co., Providence, R. I.

Milk Filters. (Liquor, Milk, etc.)
International Filter Co., Chicago, Ill.

Mill Engineers and Architects.
Lockwood, Greene & Co., Boston, Mass.
Sirrre, J. E., Greenville, S. C.
Sohle, Edward, Charlotte, N. C.

Mill Supplies.
Appomattox Iron Works, Petersburg, Va.
Bailley-Leiby Co., Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
Calnesville Iron Works, Calnesville, Ga.
Greenwald Co., I. & E., Cincinnati, O.
Lombard Iron Works, Augusta, Ga.
Manning, Maxwell & Moore, Inc., New York, N. Y.
Mecklenburg Iron Works, Charlotte, N. C.
Nordyke & Marmon Co., Indianapolis, Ind.
Salem Foundry & Machine Works, Salem, Va.
Smith-Courtney Co., Richmond, Va.
Starr Co., B. F., Baltimore, Md.
Stratton & Bragg Co., Petersburg, Va.
Wolf Co., Chambersburg, Pa.

Mining Machinery. (Gold, Copper, Plate, etc.)
Bartlett & Snow Co., C. O., Cleveland, O.
Jeffrey Mfg. Co., Columbus, O.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
Mecklenburg Iron Works, Charlotte, N. C.
Nashville Armature Works, Nashville, Tenn.
Power & Mining Machinery Co., Cudahy, Wis.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.

Mixing Machinery.
Dunning, W. D., Syracuse, N. Y.
Lynn-Superior Co., The, Cincinnati, O.

Mold. (Cement.)
Simpson Cement Mold Co., Columbus, O.

Mortar Colors.
Chattanooga Paint Co., Chattanooga, Tenn.

Mouldings, Casings, etc.
Mason & Felton Lumber Co., Macon, Ga.

Nails and Spikes.
American Steel & Wire Co., Chicago, Ill.
Hoffman & Co., R. C., Baltimore, Md.
Lebanon Valley Iron & Steel Co., Lebanon, Pa.
Republic Iron & Steel Co., Pittsburg, Pa.
West Virginia Rail Co., The, Huntington, W. Va.
Youngstown Sheet & Tube Co., Youngstown, O.

Nitre Pots, Eggs.
Pratt Engineering & Mach. Co., Atlanta, Ga.

Nuts. [See Bolts, Nuts, Rivets, etc.]

Office Furniture.
Quincy Show Case Works, Quincy, Ill.
Ruse & Thompson, Baltimore, Md.

Oils. (Lubricating, etc.)
Borne-Schrymer Co., New York, N. Y.
Galeon Signal Oil Co., Franklin, Pa.
Gulf Refining Co., Pittsburg, Pa.
Indian Refining Co., Cincinnati, O.
Robinson & Son Co., Wm. C., Baltimore, Md.
Texas Co., The, New York, N. Y.

Oil-Burning Appliances.
Ingram Fuel Oil Burner Co., Newport News, Va.
Petroleum Iron Works Co., Sharon, Pa.

Oil Cans.
Wall Mfg. Supply Co., P., Allegheny, Pa.

Oil Separators.
Stewart Heater Co., Buffalo, N. Y.

Oil Stones.
Carborundum Co., Niagara Falls, N. Y.
Norton Co., Worcester, Mass.

Oil-Storage Systems.
Hydraulic Oil Storage Co. of Maryland, Baltimore, Md.

Oil-Well Machinery.
Keystone Steam Well Mach. Co., Beaver Falls, Pa.
Williams Bros., Ithaca, N. Y.

Ornamental Iron Work.
Bartlett-Hayward Co., The, Baltimore, Md.
Belmont Iron Works, Inc., Philadelphia, Pa.
Bolles Iron & Wire Works, J. E., Detroit, Mich.
Chattanooga Iron & Wire Wks., Chat'n'gs, Tenn.
Chesapeake Iron Works, Baltimore, Md.
Dow Wire Works Co., Louisville, Ky.
Ohio Elevator & Machine Co., The, Columbus, O.
Roanoke Iron Works, Inc., Roanoke, Va.
Schreiber & Sons Co., The, L., Cincinnati, O.
Snead Architectural Iron Works, Louisville, Ky.

Packing. (Asbestos, Metallic, Rubber, Leather, etc.)
Jenkins Bros., New York, N. Y.
Johns-Manville Co., H. W., New York, N. Y.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
Power Specialty Co., New York, N. Y.

Paint. (Bridge.)
Dixon Crucible Co., Jos., Jersey City, N. J.
Maryland Steel Co., Sparrows Point, Md.
National Roofing Co., Tonawanda, N. Y.

Paints. (Cold Water.)
Wilhelm Co., A., New York, N. Y.

Paint. (Roofing, Building, etc.)
Armstrong Mfg. Co., The, Richmond, Va.
Bird & Son, F. W., East Walpole, Mass.
Cameron & Barkley Co., Charleston, S. C.
Carolina Portland Cement Co., Charleston, S. C.
Chattanooga Paint Co., Chattanooga, Tenn.
Dixon Crucible Co., Jos., Jersey City, N. J.
Gibbs Vanalish Co., Cleveland, O.
Maryland Steel Co., Sparrows Point, Md.
National Roofing Co., Tonawanda, N. Y.
Standard Paint Co., New York, N. Y.
Wilhelm Co., A., New York, N. Y.

Paint. (Metal Preservative.)
Maryland Steel Co., Sparrows Point, Md.
National Roofing Co., Tonawanda, N. Y.
Wilhelm Co., A., New York, N. Y.

Painting. (Contractors for Bridges, Buildings, etc.)
Dinlao & Bro., A., Pittsburg, Pa.

Paint-making Machinery.
Campbell, P. F., Philadelphia, Pa.
Lynn Superior Co., The, Cincinnati, O.

Paper. (Roofing, Building, Sheathing, etc.)
Armstrong Mfg. Co., Richmond, Va.
Bartlett Mfg. Co., Philadelphia, Pa.
Bird & Son, F. W., East Walpole, Mass.
Cameron & Barkley Co., Charleston, S. C.
Southeastern Lime & Cement Co., Charleston, S. C.

Paraffine Wax.
Standard Oil Co., Inc., Cincinnati, O.

Patent Attorneys.
Brown, Eugene C., Washington, D. C.
Chandless & Co., H. Ellis, Washington, D. C.
Chandless & Chandless, Washington, D. C.
Evans & Co., Victor J., Washington, D. C.
Hamlin, Geo. R., Washington, D. C.
Lacey, H. S. & A. B., Washington, D. C.
Owen, Richard B., Washington, D. C.

Patterns.
Roanoke Iron Works, Inc., Roanoke, Va.

Pavement Filler.
Barrett Mfg. Co., Philadelphia, Pa.

Paving. (Contractors for Creosoted Wood Block.)
Creosoted Wood Block Paving Co., Gulfport, Miss.

Paving. (Road and Street, etc.)
Barber Asphalt Paving Co., Philadelphia, Pa.
Southern Clay Mfg. Co., Chattanooga, Tenn.

Paving Blocks. (Granite.)
Harris Granite Quarries Co., Salisbury, N. C.

Paving Blocks. (Wood Creosote-Resinate.)
Gulfport Creosoting Co., Gulfport, Miss.
Southern Wood Preserving Co., Atlanta, Ga.
U. S. Wood Preserving Co., New York, N. Y.

Paving Brick.
Carlyle Paving Brick Co., Portsmouth, O.
Copeland-Ingalls Shale Brick Co., Birm'gh'm, Ala.
Southern Clay Mfg. Co., Chattanooga, Tenn.

Perforated Metal.
Caldwell & Son, H. W., Chicago, Ill.
Clinton, Wire Cloth Co., Clinton, Mass.
Erdle Perforating Co., Rochester, N. Y.
Hendrick Mfg. Co., The, Carbonate, Pa.
Mundt & Sons, Charles, Jersey City, N. J.

Perspectives. (Water Color, for Architects.)
Alger & Smith, Atlanta, Ga.

Petroleum Refiners.
Gulf Refining Co., Pittsburg, Pa.
Indian Refining Co., Cincinnati, O.
Standard Oil Co., Cincinnati, O.

Phosphate Machinery.
Alsing Engineering Co., J. R., New York, N. Y.
American Process Co., New York, N. Y.
Bailley-Leiby Co., The, Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
Link-Belt Co., Nictown (Philadelphia), Pa.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
Pratt Engineering & Mach. Co., Atlanta, Ga.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
Vaik & Mordock & Iron Works, Charleston, S. C.
Walker & Elliott, Wilmington, Del.

Phosphor-Bronze. (Wire Rods, Sheets.)
Phosphor-Bronze Smelting Co., Philadelphia, Pa.

Photo-Engravers.
Baltimore Maryland Engv. Co., Baltimore, Md.

Pig Iron.
Alabama Con. Coal & Iron Co., Birmingham, Ala.
Hammond-Burd Co., The, Birmingham, Ala.
Hickman, Williams & Co., Chicago, Ill.
La Belle Iron Works, Steubenville, O.
Republic Iron & Steel Co., Pittsburg, Pa.
Rogers, Brown & Co., Cincinnati, O.
Tennessee Coal, Iron & R. R. Co., B'm'gh'm, Ala.

Pile Drivers.
Browning Engineering Co., Cleveland, O.
Bucyrus Co., The, Milwaukee, Wis.
Vulcan Iron Works, Chicago, Ill.

Piling. (Concrete.)
Raymond Concrete Pile Co., New York, N. Y.

Piling. (Creosoted.)
Gulfport Creosoting Co., Gulfport, Miss.
Intern'l Creosoting & Const. Co., Alveston, Tex.
Southern Creosoting Co., Ltd., Bldell, La.

Pillow Blocks.
Caldwell Co., Inc., W. E., Louisville, Ky.
Dodge Manufacturing Co., Mishawaka, Ind.
Golden's Foundry & Machine Co., Columbus, Ga.

Pine Tar.
Atlantic Turpentine Co., Savannah, Ga.

Pipe. (Cast Iron.)
American Cast Iron Pipe Co., Birmingham, Ala.
American Pipe & Construction Co., Phila., Pa.
General Fire Extinguisher Co., Providence, R. I.
Glamorgan Pipe & Foundry Co., Lynchburg, Va.
McWane Pipe Works, Lynchburg, Va.
U. S. Cast Iron Pipe & Fdry. Co., New York, N. Y.
Wood & Co., R. D., Philadelphia, Pa.

Pipe. (Coil.)
Columbus Iron Works Co., Columbus, Ga.
Frick Co., The, Waynesboro, Pa.
National Pipe Bending Co., New Haven, Conn.
Whitlock Coil Pipe Co., Hartford, Conn.
Wolf Co., Fred W., Chicago, Ill.
York Mfg. Co., York, Pa.

Pipe. (Corrugated Culvert.)
American Rolling Mill Co., Middletown, O.
Canton Culvert Co., The, Canton, O.
Dixie Culvert & Metal Co., Atlanta, Ga.
Kentucky Culvert Mfg. Co., Buechel, Ky.
North Carolina Metal Culv. Co., Greensboro, N. C.
Virginia Metal Culvert Co., Roanoke, Va.
Virginia-Railway Supply Co., Norfolk, Va.

Pipe. (Riveted.)
Abendroth & Root Mfg. Co., Newburgh, N. Y.
Keeler Co., E., Williamsport, Pa.
Petroleum Iron Works Co., Sharon, Pa.

Pipe. (Spiral Riveted.)
Abendroth & Root Mfg. Co., Newburgh, N. Y.
American Spiral Pipe Works, Chicago, Ill.

Pipe. (Wood.)
Wyckoff & Son Co., A., Elmira, N. Y.

Pipe. (Wrought.)
General Fire Extinguisher Co., Providence, R. I.
La Belle Iron Works, Steubenville, O.
National Tube Co., Pittsburg, Pa.
Youngstown Sheet & Tube Co., Youngstown, O.

Pipe Bends.
Columbus Iron Works Co., Columbus, Ga.
Whitlock Coil Pipe Co., Hartford, Conn.

Pipe Covering. (Steam.)
Johns-Manville Co., H. W., New York, N. Y.
Wyckoff & Son Co., A., Elmira, N. Y.

Pipe Cutting and Threading Machinery.
Saunders' Sons, D., Yonkers, N. Y.

Pipe Fittings.
American Cast Iron Pipe Co., Birmingham, Ala.
Columbus Iron Works Co., Columbus, Ga.
General Fire Extinguisher Co., Providence, R. I.
Wolf Co., Fred W., Chicago, Ill.
York Mfg. Co., York, Pa.

Pipe Jointing. (Gas and Water Main.)
Leadite Co., The, Philadelphia, Pa.

Pipe Unions and Joints.
Dart Mfg. Co., E. M., Providence, R. I.
National Tube Co., Pittsburg, Pa.
Whitlock Coil Pipe Co., Hartford, Conn.

Pipe Wrenches and Cutters.
Saunders' Sons, D., Yonkers, N. Y.

Pitch.
Barrett Mfg. Co., Philadelphia, Pa.

Planers. (Metal.)
Manning, Maxwell & Moore, Inc., New York, N. Y.

Planing Mill Work.
Mason & Felton Lumber Co., Macon, Ga.

Plaster of Paris.
King & Co., J. B., New York, N. Y.

Plaster.
Security Cement & Lime Co., Baltimore, Md.

Plaster. (Asbestos Cement, Plaster of Paris.)
King & Co., J. B., New York, N. Y.

Plaster Boards.
King & Co., J. B., New York, N. Y.
Plaster Products Co., Hampton, Va.

Plaster Machinery.
Bartlett & Snow Co., C. O., Cleveland, O.

Plates.
Cincinnati Iron & Steel Co., Cincinnati, O.

Pneumatic Tools. [See Tools—Pneumatic.]

Poles. (Transmission Line; Steel.)
Ritter-Conley Mfg. Co., Pittsburg, Pa.

Polishing Machinery. (Wheels and Blocks.)
Abrasive Material Co., Philadelphia, Pa.
Carborundum Co., Niagara Falls, N. Y.
Springfield Tire & Rubber Co., Springfield, O.
Vitrified Wheel Co., Westfield, Mass.

Power Transmission Machinery.
Bailley-Leiby Co., Charleston, S. C.
Caldwell Co., Inc., W. E., Louisville, Ky.
Caldwell & Son Co., H. W., Chicago, Ill.
Dayton Globe Iron Works Co., Dayton, O.
Dodge Manufacturing Co., Mishawaka, Ind.
Golden's Foundry & Machine Co., Columbus, Ga.
Greenwald Co., I. & E., Cincinnati, O.
Jeffrey Mfg. Co., Columbus, O.
Jones & Laughlin Steel Co., Pittsburg, Pa.
Lane Mfg. Co., Montpelier, Vt.
Link-Belt Co., Nictown (Philadelphia), Pa.
Morse Chain Co., Ithaca, N. Y.
Nordyke & Marmon Co., Indianapolis, Ind.
Poole Engineering & Machine Co., Baltimore, Md.
Positive Clutch & Pulley Works, Buffalo, N. Y.
Price Machinery Co., S. M., Norfolk, Va.
Schofield's Sons Co., J. S., Macon, Ga.
Wood's Sons Co., T. R., Chambersburg, Pa.

Presses. (Baling, Cottonseed Oil, etc., Hydraulic and Power.)

Boomer & Boschert Press Co., Syracuse, N. Y.
Cardwell Machine Co., Richmond, Va.
Continental Gin Co., Birmingham, Ala.
Gibbs Machinery Co., Columbia, S. C.

Presses. (Stamping.)
Bliss Co., E. W., Brooklyn, N. Y.
Leffer & Co., Charles, Brooklyn, N. Y.

Preventive for Sap Stain.
Church & Dwight Co., New York, N. Y.

- Printers.** (Book, Catalog, Job, etc.)
Fleet-McGinley Co., Baltimore, Md.
- Protector Steel.** (Concrete Curb, Steps, etc.)
Steel Protected Concrete Co., Philadelphia, Pa.
- Pulleys.** (Fleeton Clutch.)
Caldwell Co., Inc., W. E., Louisville, Ky.
Caldwell & Son Co., H. W., Chicago, Ill.
Dodge Manufacturing Co., Mishawaka, Ind.
Pole Engineering & Machine Co., Baltimore, Md.
Positive Clutch & Pulley Works, Buffalo, N. Y.
Sincclair-Scott Co., Baltimore, Md.
Woods' Sons Co., T. B., Chambersburg, Pa.
- STEEL SPLIT.**
American Pulley Co., Philadelphia, Pa.
Dodge Manufacturing Co., Mishawaka, Ind.
- WOOD SPLIT.**
Caldwell Co., Inc., W. E., Louisville, Ky.
Caldwell & Son Co., H. W., Chicago, Ill.
Dodge Manufacturing Co., Mishawaka, Ind.
Lane Mfg. Co., Montpelier, Vt.
Positive Clutch & Pulley Works, Buffalo, N. Y.
Saginaw Mfg. Co., Saginaw, Mich.
Salem Foundry & Machine Works, Salem, Va.
- Pulleys, Shafting and Hangers.**
Caldwell Co., Inc., W. E., Louisville, Ky.
Caldwell & Son Co., H. W., Chicago, Ill.
Dodge Manufacturing Co., Mishawaka, Ind.
Golden's Foundry & Machine Co., Columbus, Ga.
Greenwald Co., L. & E., Cincinnati, O.
Jeffrey Mfg. Co., Columbus, O.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Lane Mfg. Co., Montpelier, Vt.
Link-Belt Co., Nictown (Philadelphia), Pa.
Nordyke & Macdonald, Indianapolis, Ind.
Pole Engineering & Machine Co., Baltimore, Md.
Positive Clutch & Pulley Works, Buffalo, N. Y.
Standard Roller Bearing Co., Philadelphia, Pa.
Woods' Sons Co., T. B., Chambersburg, Pa.
- Pumps.** (Centrifugal.)
Alberger Pump Co., New York, N. Y.
Buffalo Steam Pump Co., Buffalo, N. Y.
De Laval Steam Turbine Co., Trenton, N. J.
Emerson Steam Pump Co., Alexandria, Va.
Erie Pump & Engine Works, Erie, Pa.
Goulds Mfg. Co., Seneca Falls, N. Y.
Morris Machine Works, Baldwinville, N. Y.
Wheeler Condenser & Eng. Co., New York, N. Y.
Wood & Co., R. D., Philadelphia, Pa.
Worthington, H. R., New York, N. Y.
- Pumps.** (Hydraulic.)
Buffalo Steam Pump Co., Buffalo, N. Y.
Cardwell Machine Co., Richmond, Va.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Emerson Steam Pump Co., Alexandria, Va.
Erie Pump & Engine Wks., Erie, Pa.
Goulds Mfg. Co., Seneca Falls, N. Y.
Worthington, H. R., New York, N. Y.
- Pumps.** (Lift and Force.)
Goulds Mfg. Co., Seneca Falls, N. Y.
Ingersoll-Rand Co., New York, N. Y.
- Pumps.** (Odorous and Excavating.)
Goulds Mfg. Co., Seneca Falls, N. Y.
- Pumps.** (Pneumatic.)
Ingersoll-Rand Co., New York, N. Y.
- Pumps.** (Power Boiler Feed.)
Alberger Pump Co., New York, N. Y.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Goulds Mfg. Co., Seneca Falls, N. Y.
McGowan Co., John H., Cincinnati, O.
Moffatt Machinery Mfg. Co., Charlotte, N. C.
Murray Iron Works Co., Burlington, Ia.
Myers & Bro., F. E., Ashland, O.
Union Steam Pump Co., Battle Creek, Mich.
Worthington, H. R., New York, N. Y.
- Pumps.** (Rotary.)
Goulds Mfg. Co., Seneca Falls, N. Y.
McGowan Co., John H., Cincinnati, O.
- Pumps.** (Steam.)
Blakeslee Mfg. Co., Du Quoin, Ill.
Buffalo Steam Pump Co., Buffalo, N. Y.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Cameron & Barkley Co., Charleston, S. C.
Cook Well Co., The, St. Louis, Mo.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Deane Steam Pump Co., Holyoke, Mass.
Fairbanks, Morse & Co., Chicago, Ill.
Gibbs Machinery Co., Columbia, S. C.
Goulds Mfg. Co., Seneca Falls, N. Y.
Hooven, Owen, Rentschler Co., Hamilton, O.
Keystone Pump & Well Eng. Co., Beaver Falls, Pa.
McGowan Co., John H., Cincinnati, O.
Murray Iron Works Co., Burlington, Ia.
Price Machinery Co., S. M., Norfolk, Va.
Sydney Pump & Well Co., Richmond, Va.
Union Steam Pump Co., Battle Creek, Mich.
Wheeler Condenser & Eng. Co., New York, N. Y.
Worthington, H. R., New York, N. Y.
- Pumps.** (Trench.)
Goulds Mfg. Co., Seneca Falls, N. Y.
- Pumps.** (Vacuum.)
Alberger Pump Co., New York, N. Y.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Goulds Mfg. Co., Seneca Falls, N. Y.
Union Steam Pump Co., Battle Creek, Mich.
Wheeler Condenser & Eng. Co., New York, N. Y.
- Pumping Machinery.**
Allis-Chalmers Co., Milwaukee, Wis.
Blakeslee Mfg. Co., Du Quoin, Ill.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Cook Well Co., The, St. Louis, Mo.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Deane Steam Pump Co., Holyoke, Mass.
Fairbanks, Morse & Co., Chicago, Ill.
Gibbs Machinery Co., Columbia, S. C.
Goulds Mfg. Co., Seneca Falls, N. Y.
Hooven, Owen, Rentschler Co., Hamilton, O.
Keystone Pump & Well Eng. Co., Beaver Falls, Pa.
Moffatt Machinery Mfg. Co., Charlotte, N. C.
Morris Machine Works, Baldwinville, N. Y.
Myers & Bro., F. E., Ashland, O.
Purser, J. R., Charlotte, N. C.
Sanitary Pump Co., Dayton, O.
Sydney Pump & Well Co., Richmond, Va.
Union Steam Pump Co., Battle Creek, Mich.
Wood & Co., R. D., Philadelphia, Pa.
Worthington, H. R., New York, N. Y.
- Punching and Shearing Machinery.**
Bertsch & Co., Cambridge City, Ind.
Bliss Co., E. W., Brooklyn, N. Y.
Royersford Foundry & Mach. Co., Royersford, Pa.
- Pyrites Burners.**
Pratt Engineering & Mach. Co., Atlanta, Ga.
- Quarrying and Stoneworking Machinery.**
Ingersoll-Rand Co., New York, N. Y.
- Railroads.** (Agricultural and Industrial Opportunities.) (See Industrial, Agricultural and Commercial Opportunities.)
- Railroads.** (Passenger Department.)
Illinois Central Railroad, Chicago, Ill.
- Railroad Equipment and Supplies.** (New and Second-hand.)
American Frog & Switch Co., Hamilton, O.
American Locomotive Co., New York, N. Y.
American Valve & Meter Co., Cincinnati, O.
Balfour-Lehy Co., The, Charleston, S. C.
Baldwin Equipment & Supply Co., Chicago, Ill.
Birmingham Rail & Loco. Co., Birmingham, Ala.
Boston Iron & Metal Co., Baltimore, Md.
Cincinnati Frog & Switch Co., Cincinnati, O.
Fairbanks, Morse & Co., Chicago, Ill.
Foster Co., L. B., Pittsburg, Pa.
Frank, M. K., Pittsburg, Pa.
Georgia Car & Locomotive Co., Atlanta, Ga.
Hoffman & Co., R. C., Baltimore, Md.
Kilby Frog & Switch Co., Birmingham, Ala.
Macleary, J. H., Suffolk, Va.
Males Co., Cincinnati, O.
Manning, Maxwell & Moore, Inc., New York, N. Y.
Maryland Equipment & Supply Co., Baltimore, Md.
May & Turner Co., Atlanta, Ga.
National Iron & Steel Co., Houston, Tex.
Needham Eng. Co., Geo. M., Philadelphia, Pa.
Read Co., Howard W., Philadelphia, Pa.
Robinson & Orr, Pittsburg, Pa.
Sherwood, E. C., New York, N. Y.
Smith-Courtney Co., Richmond, Va.
Southern Iron & Equipment Co., Atlanta, Ga.
Southern Supply Co., Norfolk, Va.
Steel Rail Supply Co., The, New York, N. Y.
United States Rail Co., Cumberland, Md.
Vulcan Iron Works, Wilkes-Barre, Pa.
Weir Frog Co., Cincinnati, O.
West Virginia Rail Co., The, Huntington, W. Va.
Wilson & Co., E. H., Philadelphia, Pa.
Zelicker Supply Co., Walter A., St. Louis, Mo.
- Railroad Frogs and Switches.**
American Frog & Switch Co., Hamilton, O.
Cincinnati Frog & Switch Co., Cincinnati, O.
Hoffman & Co., R. C., Baltimore, Md.
Kilby Frog & Switch Co., Birmingham, Ala.
May & Turner Co., Atlanta, Ga.
Robinson & Orr, Pittsburg, Pa.
Sweet's Steel Co., Williamsport, Pa.
Weir Frog Co., Cincinnati, O.
- Rails.** (Steel.)
Baldwin Equipment & Supply Co., Chicago, Ill.
Carnegie Steel Co., Pittsburgh, Pa.
Foster Co., L. B., Pittsburg, Pa.
Frank, M. K., Pittsburg, Pa.
Hoffman & Co., R. C., Baltimore, Md.
Hunt Co., C. W., West New Brighton, N. Y.
Hyde Bros. & Co., Pittsburg, Pa.
Levis & Co., Henry, Philadelphia, Pa.
Macleary, J. H., Suffolk, Va.
May & Turner Co., Atlanta, Ga.
National Iron & Steel Co., Houston, Tex.
Newhall Eng. Co., Geo. M., Philadelphia, Pa.
Republic Iron & Steel Co., Pittsburgh, Pa.
Robinson & Orr, Pittsburg, Pa.
Sherwood, E. C., New York, N. Y.
Southern Iron & Equipment Co., Atlanta, Ga.
Steel Rail Supply Co., The, New York, N. Y.
Sweet's Steel Co., Williamsport, Pa.
Tennessee Coal, Iron & R. R. Co., R'm'm, Ala.
United States Rail Co., Cumberland, Md.
West Virginia Rail Co., The, Huntington, W. Va.
Wilson & Co., E. H., Philadelphia, Pa.
Zelicker Supply Co., Walter A., St. Louis, Mo.
- Rail Braces, Crossings, etc.** (See R. R. Frogs and Switches.)
- Railways.** (Industrial.)
Chase Fdry. & Mfg. Co., Columbus, O.
Hunt Co., C. W., West New Brighton, N. Y.
Link-Belt Co., Nictown (Philadelphia), Pa.
- Rams.** (Hydraulic.) (See Hydraulic Rams.)
- Reamers.**
Morris Twist Drill & Mach. Co., New Bedford, Mass.
- Reinforcing Bars.**
Carnegie Steel Co., Pittsburgh, Pa.
Concrete Steel Co., New York, N. Y.
Concrete Steel Engineering Co., New York, N. Y.
Franklin Steel Co., Franklin, Pa.
- Repairing.** (Armatures and Elect. App.)
Nashville Armature Works, Nashville, Tenn.
- Repairing.** (Power Plants.)
Strickland Mch. Co., Richmond, Va.
- Riveters.** (Pneumatic.)
Chicago Pneumatic Tool Co., Chicago, Ill.
Independent Pneumatic Tool Co., Chicago, Ill.
Ingersoll-Rand Co., New York, N. Y.
- Road Machinery.**
Austin-Western Co., Ltd., The, Chicago, Ill.
Buffalo Steam Roller Co., Buffalo, N. Y.
Case Threshing Mach. Co., J. I., Racine, Wis.
Huber Mfg. Co., The, Marion, O.
Iroquois Iron Works, Buffalo, N. Y.
Kelly Springfield Road Roller Co., Springfield, O.
Kilbourne & Jacobs Mfg. Co., Columbus, O.
Syracuse Chilled Plow Co., Syracuse, N. Y.
Universal Road Mch. Co., Kingston, N. Y.
- Roadmaking Materials.**
Barber Asphalt Paving Co., Philadelphia, Pa.
Standard Oil Co., Inc., Road Oil Dept.
Texas Co., The, New York, N. Y.
- Road Roller.** (Steam.)
Austin-Western Co., Ltd., The, Chicago, Ill.
Buffalo Steam Roller Co., Buffalo, N. Y.
Case Threshing Mach. Co., J. I., Racine, Wis.
Huber Mfg. Co., The, Marion, O.
Iroquois Iron Works, Buffalo, N. Y.
Kelly Springfield Road Roller Co., Springfield, O.
Kilbourne & Jacobs Mfg. Co., Columbus, O.
Syracuse Chilled Plow Co., Syracuse, N. Y.
Universal Road Mch. Co., Kingston, N. Y.
- Road Oil.**
Gulf Refining Co., Pittsburg, Pa.
Standard Oil Co., Inc., Road Oil Dept.
Texas Co., The, New York, N. Y.
- Road Plows.**
Case Threshing Mach. Co., J. I., Racine, Wis.
Syracuse Chilled Plow Co., St. Louis, Mo.
- Road Preservative.**
Gulf Refining Co., Pittsburg, Pa.
Standard Oil Co., Inc., Road Oil Dept.
Texas Co., The, New York, N. Y.
- Rock Crushers.** (See Crushers, Rock.)
- Roll Grinding and Corrugating.** (Flour Mills.)
Veatch & Co., L. R., Louisville, Ky.
- Rolls.** (Bending and Straightening.)
Bertsch & Co., Cambridge City, Ind.
- Roofers' and Tinner's Supplies.**
Merchant & Evans Co., Philadelphia, Pa.
- Roofing.** (Contractors for Laying.)
Dinacoe & Bro., A., Pittsburg, Pa.
- Roofing.** (Felt, Tar, Asbestos, Asphalt, Tin, etc.)
Allen, Herbert F. L., Washington, D. C.
American Sheet & Tin Plate Co., Pittsburg, Pa.
Armstrong Mfg. Co., Richmond, Va.
Barber Asphalt Paving Co., Philadelphia, Pa.
Barrett Mfg. Co., Philadelphia, Pa.
Birmingham & Seaman Co., Chicago, Ill.
- Bird & Son, F. W., East Walpole, Mass.**
Cameron & Barkley Co., Charleston, S. C.
Carolina Portland Cement Co., Charleston, S. C.
Cincinnati Sheet Metal & Rfg. Co., Cincinnati, O.
Johns-Manville Co., H. W., New York, N. Y.
National Roofing Co., Tonawanda, N. Y.
Standard Paint Co., New York, N. Y.
Warren-Ehret Co., Philadelphia, Pa.
- Roofing.** (Cement.)
Carey Mfg. Co., Philad., Cincinnati, O.
- Roofing.** (Metal Shingles.) (See Shingles, Metal.)
Cincinnati Sheet Metal & Rfg. Co., Cincinnati, O.
Corrington Metal Roofing Co., Philadelphia, Pa.
Edwards Mfg. Co., The, Cincinnati, O.
Milwaukee Corrugating Co., Milwaukee, Wis.
- Roofing.** (Reinforced Concrete.)
Clinton Wire Cloth Co., Clinton, Mass.
- Roofing.** (Slate.)
East Bangor Consol. Slate Co., East Bangor, Pa.
Galt & Sons, John, New York, N. Y.
Genuine Bangor Slate Co., Easton, Pa.
Hower, J. K., Slattington, Pa.
Johnson, E. J., New York, N. Y.
- Roofing and Siding.** (Bird Sand and Chipped Slate Surfaced.)
Birmingham & Seaman Co., Chicago, Ill.
- Roofing and Siding.** (Flexible Cement. Bur-lap Inserted.)
Birmingham & Seaman Co., Chicago, Ill.
- Roofing and Siding.** (Metal.)
American Rolling Mill Co., Middletown, O.
American Sheet & Tin Plate Co., Pittsburg, Pa.
Cameron & Barkley Co., Charleston, S. C.
Corrington Metal Roofing Co., Philadelphia, Pa.
Edwards Mfg. Co., The, Cincinnati, O.
Hyndman Roofing Co., Cincinnati, O.
Milwaukee Corrugating Co., Milwaukee, Wis.
New Orleans Rfg. & Metal Wks., New Orleans, La.
Tennessee Metal Culvert Co., Nashville, Tenn.
Youngstown Sheet & Tube Co., Youngstown, O.
- Rope.**
American Mfg. Co., New York, N. Y.
Broderick & Bascoun Rope Co., St. Louis, Mo.
Columbian Rope Co., Auburn, N. Y.
Plymouth Cordage Co., North Plymouth, Mass.
Turner Co., J. Spencer, New York, N. Y.
Whitlock Cordage Co., New York, N. Y.
- Rope.** (Transmission and Hoisting.)
American Mfg. Co., New York, N. Y.
American Steel & Wire Co., Chicago, Ill.
Broderick & Bascoun Rope Co., St. Louis, Mo.
Caldwell Co., Inc., W. E., Louisville, Ky.
Columbian Rope Co., Auburn, N. Y.
Dodge Manufacturing Co., Mishawaka, Ind.
Hunt Co., C. W., West New Brighton, N. Y.
Plymouth Cordage Co., North Plymouth, Mass.
Whitlock Cordage Co., New York, N. Y.
Wood's Sons Co., T. B., Chambersburg, Pa.
- Rope Drives.**
Caldwell Co., Inc., W. E., Louisville, Ky.
Caldwell & Son, H. W., Chicago, Ill.
Dodge Manufacturing Co., Mishawaka, Ind.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Wood's Sons Co., T. B., Chambersburg, Pa.
- Rope Machinery.**
Haskell-Davies Machine Co., Boston, Mass.
- Rubber Goods.**
Eureka Fire Hose Mfg. Co., New York, N. Y.
New Jersey Car Sp'g & Rub. Co., Jersey City, N. J.
- Rules.** (Steel.)
Lufkin Rule Co., The, Saginaw, Mich.
Starrett Co., L. S., Athol, Mass.
- Safety and Vaults.**
York Safe & Lock Co., York, Pa.
- Safety Appliances.** (For Elevator.)
Roth Elevator Safety Co., Inc., Baltimore, Md.
- Sand.**
Arundel Sand & Gravel Co., Baltimore, Md.
Cassels Cement Gravel Co., Augusta, Ga.
Kirkpatrick Sand & Cem. Co., Birmingham, Ala.
Southern Sand & Gravel Co., Richmond, Va.
- Sand Lime Brick Machinery.**
American Clay Machinery Co., The, Bucyrus, O.
- Sand Rammers.**
Chicago Pneumatic Tool Co., Chicago, Ill.
- Sand.** (White, for Glass and Steel Plants.)
Clinch Mountain Flint & Spar Co., Bristol, Tenn.
- Sap Stain Preventive.**
Church & Dwight Co., New York, N. Y.
- Sash Chain.**
Niagara Falls Metal Stamping Works, Niagara Falls, N. Y.
- Saws.**
Gibbs Machinery Co., Columbia, S. C.
Huber Bros. Saw Mfg. Co., Rochester, N. Y.
Smith Machine Co., H. B., Smithville, N. J.
Sydney Pump & Well Co., Richmond, Va.
- Saws.** (Band.)
Smith Machine Co., H. B., Smithville, N. J.
- Saws.** (Hack.)
Starrett Co., L. S., Athol, Mass.
- Sawmill Dogs.**
Soule Steam Feed Works, Meridian, Miss.
- Sawmills.**
Appomattox Iron Works, Petersburg, Va.
Gainesville Iron Works, Gainesville, Ga.
Vance & Co., J. A., Salem, N. C.
- Sawmill Machinery.**
Balfour-Lehy Co., Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
Chase Turbine Mfg. Co., Orange, Mass.
Gibbs Machinery Co., Columbia, S. C.
Lane Mfg. Co., Montpelier, Vt.
McKlenburg Iron Works, Charlotte, N. C.
Price Mch. Co., S. M., Norfolk, Va.
Schiffel's Sons Co., J. S., Macon, Ga.
Southern Engine & Boiler Works, Jackson, Tenn.
Sydney Pump & Well Co., Richmond, Va.
Union Iron Works Co., Selma, Ala.
Vance & Co., J. A., Salem, N. C.
- Saw Sharpeners.**
Abrasive Material Co., Philadelphia, Pa.
Carborundum Co., Niagara Falls, N. Y.
Norton Co., Worcester, Mass.
Vitrited Wheel Co., Westfield, Mass.
- Saw Sharpeners and Files.** (Cotton Gin.)
Carver Cotton Gin Co., East Bridgewater, Mass.
- Scales.**
Howe Scale Co., New York, N. Y.
Rome Scale & Mfg. Co., Rome, Ga.
Standard Scale & Supply Co., Pittsburg, Pa.
- Screening Apparatus.**
Walker & Elliott, Wilmington, Del.
- Screens.** (Fly, Window and Door.)
New Jersey Wire Cloth Co., Trenton, N. J.
- Screens.** (Mining.)
Clinton Wire Cloth Co., Clinton, Mass.
Erdle Perforating Co., Rochester, N. Y.
Hendrick Mfg. Co., Carbondale, Pa.
Jeffrey Mfg. Co., Columbus, O.
New Jersey Wire Cloth Co., Trenton, N. J.
Mundt & Sons, Charles, Jersey City, N. J.
McLanahan Stone Mach. Co., Hollidaysburg, Pa.
Symons Bros., Milwaukee, Wis.
- Searchlights.**
Ft. Wayne Electric Works, Ft. Wayne, Ind.
- Separators.** (Dust.)
Buffalo Forge Co., Buffalo, N. Y.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
Savannah Blow Pipe Co., Savannah, Ga.
Skinner Bros., St. Louis, Mo.
- Sewer Pipe Machinery.**
American Clay Machinery Co., The, Bucyrus, O.
Taplin-Rice-Clerkin Co., Akron, O.
- Sewer Pipe.** (Vitrified.)
Carolina Portland Cement Co., Charleston, S. C.
Pomona Terra-Cotta Co., Pomona, N. C.
Stevens Sons Co., H., Macon, Ga.
- Shafting.** (Polished Steel.)
Field & Co., Inc., Philadelphia, Pa.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Republic Iron & Steel Co., Pittsburgh, Pa.
- Shafting Boxes.**
Hyatt Roller Bearing Co., Newark, N. J.
- Shafting.** (See Pulleys, Shafting and Hangers.)
- Sharpening Stones.**
Norton Co., Worcester, Mass.
Vitrited Wheel Co., Westfield, Mass.
- Shears.** (Metal.)
Royersford Fdry. & Mach. Co., Royersford, Pa.
- Sheet Brass and Copper.**
Innsay & Co., C. G., Pittsburg, Pa.
Merchant & Evans Co., Philadelphia, Pa.
- Sheet Metal Working Machinery.**
Bliss Co., E. W., Brooklyn, N. Y.
- Sheet Piling.** (Concrete.)
Raymond Concrete Pile Co., New York, N. Y.
- Sheet Steel and Iron.**
Allegheny Steel Co., Pittsburgh, Pa.
American Rolling Mill Co., Middletown, O.
American Sheet & Tin Plate Co., Pittsburgh, Pa.
Cincinnati Iron & Steel Co., Cincinnati, O.
La Belle Iron Works, Steubenville, O.
Republic Iron & Steel Co., Pittsburgh, Pa.
Tennessee Coal, Iron & R. R. Co., R'm'm, Ala.
Wood Iron & Steel Co., Alton, Philadelphia, Pa.
Youngstown Sheet & Tube Co., The, Youngstown, O.
- Shingles.** (Metal.)
Carolina Portland Cement Co., Charleston, S. C.
Cincinnati Sheet Metal & Rfg. Co., Cincinnati, O.
Corrington Metal Roofing Co., Philadelphia, Pa.
Edwards Mfg. Co., Cincinnati, O.
Tennessee Metal Culvert Co., Nashville, Tenn.
Milwaukee Corrugating Co., Milwaukee, Wis.
- Shipping Tags.**
Denham Mfg. Co., Boston, Mass.
- Shovels.** (R. R. Contractors', Fdry., Mill, etc.)
Texas Handle Co., Houston, Tex.
- Shredders.** (Bark, Chip, etc.)
Williams Pat. Crush. & Pul. Co., The, Chicago, Ill.
- Shutters.** (Iron.)
Rolls Iron & Wire Works, J. E., Detroit, Mich.
Chesapeake Iron Works, Baltimore, Md.
- Shutters.** (Steel Rolling.)
Kinmer Mfg. Co., Columbus, O.
- Shutters.** (Tin Clad.)
Victor Mfg. Co., Newburyport, Mass.
- Siding and Roofing.** (Bird Sand and Chipped Slate Surfaced.)
Birmingham & Seaman Co., Chicago, Ill.
- Signs.** (Metal Lithographed.)
Southern Can Co., Baltimore, Md.
- Sightlights and Cornices.**
Milwaukee Corrugating Co., Milwaukee, Wis.
New Orleans Rfg. & Metal Wks., New Orleans, La.
- Slate.** (Structural, Sanitary, etc.)
Carolina Portland Cement Co., Charleston, S. C.
East Bangor Consol. Slate Co., East Bangor, Pa.
Genuine Bangor Slate Co., Easton, Pa.
Hower, J. K., Slattington, Pa.
- Slaters' Tools.**
Galt & Sons, John, New York, N. Y.
- Sluice Gates and Appliances.**
Coldwell-Wilecox Co., Newburgh, N. Y.
- Smokestacks.** (Iron and Steel.)
Chattanooga Boiler & Tank Co., Chat'n'ga, Tenn.
Keeler Co., E., Williamsport, Pa.
Lombard Iron Works, Augusta, Ga.
Petroleum Iron Works Co., Sharon, Pa.
Schiffel's Sons Co., J. S., Macon, Ga.
Virginia Bridge & Iron Co., Rosnoke, Va.
- Smokestacks.** (Steel Concrete.)
Weber Chimney Co., Chicago, Ill.
- Spikes.** [See Nails and Spikes.]
- Spiral Stairs.**
Raquette Foundry & Supply Co., Massena, N. Y.
- Springs.** (Machinery, Railway, Spiral.)
American Steel & Wire Co., Chicago, Ill.
Cary Spring Works, New York, N. Y.
Raymond Mfg. Co., Ltd., Corry, Pa.
- Sprinklers.** (Automatic.)
General Fire Extinguisher Co., Providence, R. I.
- Stamp Mills.**
McKlenburg Iron Works, Charlotte, N. C.
- Stamps.** (Brass, Rubber.)
Bennett Rubber Stamp & Seal Co., Atlanta, Ga.
Dixie Seal & Stamp Co., Atlanta, Ga.
- Standpipes.**
Chattanooga Boiler & Tank Co., Chat'n'ga, Tenn.
Chicago Bridge & Iron Wks., Chicago, Ill.
Hartley Boiler Works, Montgomery, Ala.
Keeler Co., E., Williamsport, Pa.
Petroleum Iron Works Co., Sharon, Pa.

Stapling Machinery. (Fruit Package Basket, etc.)

Baranac Machine Co., St. Joseph, Mich.

Stationers. (Envelopes, etc.)

Young & Selden Co., Baltimore, Md.

Steam Feeds.

Sole Steam Feed Works, Meridian, Miss.

Steam Fitters' Supplies.

General Fire Extinguisher Co., Providence, R. I.

Saunders' Sons, D., Yonkers, N. Y.

Steam Heating.

General Fire Extinguisher Co., Providence, R. I.

Keefer Co., E., Williamsport, Pa.

Peck-Hammond Co., The, Cincinnati, O.

Steamship Lines.

Baltimore Steam Packet Co., Baltimore, Md.

Chesapeake Steamship Co., Baltimore, Md.

Merchant & Miners' Trans. Co., Baltimore, Md.

Steam Separators.

Hoppe Mfg. Co., Springfield, O.

Lindstrom's Mach. Wks., John T., Allentown, Pa.

Steam Shovels. (See Excavating Machinery.)

Browning Engineering Co., Cleveland, O.

Steam Specialties.

Powell Co., Wm., Cincinnati, O.

Purser, J. R., Charlotte, N. C.

Steam Traps.

American Blower Co., Detroit, Mich.

Jenkins Bros., New York, N. Y.

Lindstrom's Mach. Wks., John T., Allentown, Pa.

Steel.

American Rolling Mill Co., Middletown, O.

Carnegie Steel Co., Pittsburgh, Pa.

Field & Co., Inc., Philadelphia, Pa.

Hoffman & Co., R. C., Baltimore, Md.

Jones & Laughlin Steel Co., Pittsburgh, Pa.

Lebanon Valley Iron & Steel Co., Lebanon, Pa.

La Belle Iron Works, Steubenville, O.

Republic Iron & Steel Co., Pittsburgh, Pa.

Tennessee Coal, Iron & R. R. Co., Birmingham, Ala.

Wood Iron & Steel Co., Alan, Philadelphia, Pa.

Steels. (Tool.)

Field & Co., Inc., Philadelphia, Pa.

Jesse's Sons Steel Sales Co., Wm., St. Louis, Mo.

Carnegie Steel Co., Pittsburgh, Pa.

Steel. (Vanadium.)

American Vanadium Co., Pittsburgh, Pa.

Carnegie Steel Co., Pittsburgh, Pa.

Steel Buildings. (Designers, Builders.)

American Bridge Co. of New York, New York, N. Y.

Baltimore Bridge Co., Baltimore, Md.

Bartlett-Hayward Co., The, Baltimore, Md.

Chesapeake Iron Works, Baltimore, Md.

Chicago Bridge & Iron Wks., Chicago, Ill.

Farris Bridge Co., Pittsburgh, Pa.

Missouri Valley Bridge & Iron Co., Leavenworth, Kans.

Morris, Wheeler & Co., Philadelphia, Pa.

Phoenix Iron Co., Philadelphia, Pa.

Ritter-Conley Mfg. Co., Pittsburgh, Pa.

Roanoke Bridge Co., Roanoke, Va.

Scherer & Sons Co., The, Cincinnati, O.

Snead Architectural Iron Works, Louisville, Ky.

Virginia Bridge & Iron Co., Roanoke, Va.

Steel Casting.

Cruible Steel Castings Co., Lansdowne, Pa.

Hoffman & Co., R. C., Baltimore, Md.

Reliance Steel Casting Co., Pittsburgh, Pa.

Riverside Steel Casting Co., Newark, N. J.

Steel Plate Work.

Bartlett-Hayward Co., The, Baltimore, Md.

Casey-Hedges Co., Chattanooga, Tenn.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Chicago Bridge & Iron Wks., Chicago, Ill.

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Phoenix Iron Co., Philadelphia, Pa.

Republic Iron & Steel Co., Pittsburgh, Pa.

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Steel Protector. (Concrete Curb Steps, etc.)

[See Protector Steel.]

Steel Sheet Piling.

Carnegie Steel Co., Pittsburgh, Pa.

Jones & Laughlin Steel Co., Pittsburgh, Pa.

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Duke Engine Co., Grand Haven, Mich.

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Baltimore Office Supply Co., Baltimore, Md.

Dixie Seal & Stamp Co., Atlanta, Ga.

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Chesapeake Iron Works, Baltimore, Md.

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Westinghouse Machine Co., Pittsburgh, Pa.

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Elec. Storage Battery Co., The, Philadelphia, Pa.

Westinghouse Machine Co., Pittsburgh, Pa.

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Cameron Steam Pump Wks., A. S., New York, N. Y.

American Bridge Co. of New York, New York, N. Y.

Baltimore Bridge Co., Baltimore, Md.

Bartlett-Hayward Co., The, Baltimore, Md.

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Carnegie Steel Co., Pittsburgh, Pa.

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Western Electric Co., New York, N. Y.

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Speidel, J. G., Reading, Pa.

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Broderick & Bascom Rope Co., St. Louis, Mo.

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Triumph Electric Co., Cincinnati, O.

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Fairbanks Steam Shovel Co., Marion, O.

Monaghan Machine Co., Chicago, Ill.

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Rome Scale & Mfg. Co., Rome, Ga.

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Westinghouse Machine Co., Pittsburgh, Pa.

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Electric Wheel Co., Quincy, Ill.

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Cook Well Co., St. Louis, Mo.

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Allegheny Steel Co., Pittsburgh, Pa.

Cincinnati Iron & Steel Co., Cincinnati, O.

National Tube Co., Pittsburgh, Pa.

Tubing.

Field & Co., Inc., Philadelphia, Pa.

La Belle Iron Works, Steubenville, O.

National Tube Co., Pittsburgh, Pa.

Youngstown Sheet & Tube Co., The, Youngstown, O.

Turbines. (Hydraulic.)

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Lefell & Co., James, Springfield, O.

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Wagner Electric Mfg. Co., St. Louis, Mo.

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Turbine Condensers.

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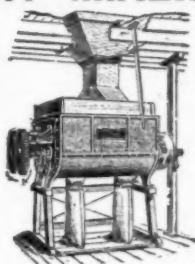
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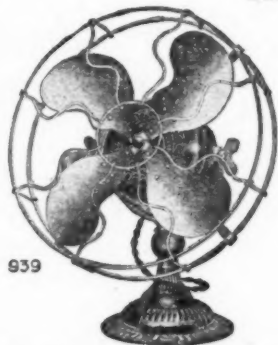
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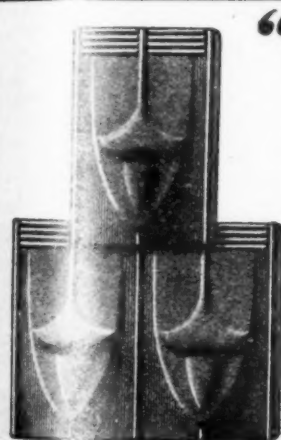
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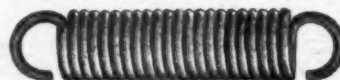
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